

PoE
SMARTPOWER

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SMARTPOWER

A trusted voice in a world of confusion

Brand-Rex has developed the enviable position of being Europe's premier, home based provider of 'best in class' communication infrastructure solutions.

This position has been gained through a core philosophy of delivering maximum performance through design excellence.

With a reputation as one of the most respected expert voices within the technical community, Brand-Rex has built a business and product ethos around one word – trust. This high level of knowledge, experience and integrity, gained through three decades of networking deployment, means that whenever Brand-Rex speaks, the industry listens.

The Principle

PoE integrates power and data onto one single cabling infrastructure, supporting Category 5e up to 100 metres and eliminating the need to have AC power available at all locations. Increased resilience can be achieved by connecting an uninterrupted power supply (UPS) to the PoE injector in a centralised location. This configuration ensures the continuous operation of remotely connected devices, such as IP telephones, WLAN access points and IP security cameras, during power failures

The Options

A PoE system consists of Power Sourcing Equipment (PSE) and Powered Devices (PDs). The PSE may take the form of an end-span (i.e. a layer 2 Ethernet switch) or a midspan, while the PD is a PoE enabled terminal (such as an IP telephone, WLAN access point, etc). Power may be delivered over either the data pairs (1/2 as "-" and 3/6 as "+") or spare pairs (4/5 as "+" and 7/8 as "-") of standard Category 5e cabling.

When using a midspan device the power is only delivered over the spare pairs. A midspan is a separate power supply that is used in the data path to inject power into the Ethernet cable thereby providing PoE independent of the switch. The integrated option uses a switch that has built in PoE capabilities. For a small installation where a new switch is being deployed, the integrated route is currently the most cost effective solution. However, in situations where the customer already owns the switches and they do not want to replace them at the time of installation, the use of a midspan is the most cost effective way to deploy PoE.

What about Greenfield Sites?

If the customer keeps the network up to date with regular upgrades then it makes sense to separate the power and use the midspan as an applications patch panel. The midspans can then be considered part of the cabling infrastructure. This way the upgrades will be cheaper

as they will not include the PoE circuitry. Using midspans, PoE is a one-off purchase, which would not be the case with an integrated solution.

Standardisation

IEEE 802.3af is the global Standard for remotely powering Ethernet devices over LAN infrastructure. It defines the specifications for delivering power over Ethernet cables, and stipulates the way to design Ethernet power sourcing equipment and powered terminals. The Standard involves delivering power over existing Category 5e cable and component infrastructure, including standard patch panels, patch cords and outlets. IEEE 802.3af power sourcing equipment contains a detection mechanism to prevent the powering of non-compliant devices. Only terminals that present an authenticated Power over Ethernet signature, based on the 802.3af Standard, will receive power, preventing damage to other equipment.

Why Power over Ethernet?

Structured cabling is the foundation of all today's data networks. New technologies are constantly being introduced to enhance and improve the service provided by the network.

For example:

- WLAN is used to extend the network where it is uneconomical to install cables.
- IP telephony offers new and enhanced business applications.
- Network cameras are becoming common, due to the increased focus on security.

The addition of a wide range of network devices has an effect on the costs associated with AC power provision, compounded when devices such as WLAN access points and security cameras are installed in remote locations. These costs can be eliminated with the use of a midspan PoE, if adopted as a core part of the structured cabling installation.

Remote Power Feeding

The SmartPower 12 and 24 port Power over Ethernet midspans connect to an existing Ethernet infrastructure via standard Category 5e patch cords. An external splitter may be installed where a device is not Standards compliant.

Scalable Solution

The SmartPower 12 and 24 port Power over Ethernet midspans support up to 24 Ethernet terminals. Multiple midspans can be mounted in a communications room to support additional terminals, resulting in a simple, cost effective method of expanding the network, as requirements evolve.

Centralised Power Distribution

Deploying Power over Ethernet in conjunction with a central UPS provides a cost effective way of distributing back-up power and ensures the uninterrupted operation of the network during a power failure.

Standards Compliance

SmartPower 12 and 24 port midspans are fully compatible with the IEEE802.3af Standard.

Advanced Auto-Sensing Algorithm

SmartPower 12 and 24 port midspans feature a standard IEEE802.3af auto-sensing algorithm, as well as a backwards compatible pre-standard one.

Clear LED Displays

Real-time network monitoring through the front panel, includes a two colour per port LED, indicating normal, overload, or short-circuit conditions.

Ease of Use

The SmartPower 12 and 24 port Power over Ethernet midspans are plug-and-play products. Once turned on, they automatically detect all Power over Ethernet terminals and inject the required amount of power to the connected powered device.

Compact Size

The SmartPower 12 and 24 port midspans are designed to fit a standard 19" rack, and occupy only 1U of space.

Power Management

SmartPower 12 and 24 port midspans include enhanced power management capabilities by controlling the output power per port in the event of limited available power.

Simple Upgrade to Midspan PoE

PoE midspans offer a cost effective way of upgrading systems to IEEE 802.3af, without having to replace the existing Ethernet switches. Typically installed in the communications room, the midspan resides between the Ethernet switch and the powered devices, and injects power as defined in the IEEE 802.3af Standard.

Data is routed through the midspan without any modification or interference. In the event that the midspan is powered down, data links are maintained. Midspan installations require no setup or configuration, resulting in minimal network downtime. Midspans provide a maximum of 15.4 watts per port, which is sufficient power for IP telephones that typically consume 3 - 5 watts, WLAN access points that consume from 6 - 12 watts and IP network cameras that consume 10 - 12 watts.



Product Part Numbering

19" 1U 12 Port Midspan PoE Panel	SPCPEP1201240
19" 1U 24 Port Midspan PoE Panel	SPCPEP2401240



Key Features:

- Fully IEEE 802.3af Standard compliant
- Safe, cost effective power distribution
- Automatic detection and protection
- Back-up capability for powered devices
- Remote power option available
- Compact 19" 1U dimensions

Benefits:

- Cost effective power distribution for medium to high port density installations
- Safe powering of Standard compliant as well as legacy devices
- Investment protection of existing switches and cabling infrastructure
- Easy plug-and-play installation
- Continuous operation of powered devices during power failure
- Easy online supervision and configuration using a web browser
- Compact design for efficient rack usage

Specifications

No. of Ports:	12 or 24
Data Rates:	10/100 Mbps
PoE Output:	Pin Assigned
Polarity:	4/5 (+), 7/8 (-)
Output Voltage:	48 V DC
User Port Power:	15.4 W min.
Aggregate Power:	200 W
Input Power:	264 V AC
Input Current:	4 A @ 110 V 2 A @ 220 V
AC Frequency:	47 - 63 Hz
Dimensions:	Height - 44mm
Width:	438mm
Depth:	302mm
Weight:	4kg
Management:	Local LED display remote option

System Indicator

AC Power: Green/Orange

User Indicator

Channel Power: Green/Orange

Connectors:	Shielded RJ-45
Temp. Operation:	0 °C to 70 °C
Temp. Storage:	-20 °C to 40 °C
Thermal Rating:	200 BTU
Compliance:	wCE

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