



CONNECTIVITY & POWER SOLUTIONS

Benefits of Cobra X-Flex®

WHAT IS COBRA X-FLEX®?

Cobra Wire & Cable's X-Flex® product line offers high-performance flexible power cables engineered for demanding electrical applications where durability and flexibility are critical.

Cobra X-Flex® cables are manufactured using Class K 30-gauge bare copper strands and insulated with a proprietary flame-retardant polyvinyl chloride (PVC) compound. This insulation provides reliable resistance to moisture, abrasion, acids, diesel fuel, and oil. These cables are rated for 600/1000 volts and are suitable for operation in temperatures up to 105°C in dry environments and 75°C in wet conditions.

For applications that require greater temperature resistance, Cobra offers the X-Flex 150®. This variant features thermoset EPDM insulation, delivering outstanding abrasion resistance, strippability, flexibility, and dielectric strength. Cobra X-Flex 150® is rated for continuous operation at temperatures up to 150°C and voltages up to 1000V. It is ideal for internal and external wiring of appliances, transformers, switchboards, generators, and other equipment where a high-temperature, VW-1 flame-rated cable is needed.

Both Cobra X-Flex® and X-Flex 150® cables are UL and CSA approved, ensuring compliance with rigorous safety and performance standards.

COBRA X-FLEX® IN THE DATA CENTER

Cobra X-Flex® cables are well-suited for gray space applications in data centers, where power distribution, grounding, and flexibility are crucial.

- **Power Distribution:** Used in UPS systems, PDUs, busway systems, and switchgear to deliver reliable, flexible power distribution for servers and critical IT infrastructure.
- **Battery Backup Systems:** Used for battery banks & connections in backup power systems, supporting high-voltage battery storage solutions, ensuring secure, low-resistance power transfer between batteries, inverters, and rectifiers.
- **Generator & ATS (Automatic Transfer Switch) Connections:** Provides flexible, high-capacity wiring between backup generators and ATS systems and helps maintain consistent power supply during outages or load transfers.
- **Rack-Level Power Cabling:** Powers high-density server racks with flexible and durable cabling solutions and supports blade servers, network switches, and storage units with low-voltage, high-amperage power feeds.
- **High-Flexibility Grounding Solutions:** Used in grounding systems for equipment bonding and ensuring electrical safety & compliance with electrical codes by providing low-impedance grounding paths.
- **HVAC & Cooling Systems:** Powers CRAC (Computer Room Air Conditioning) units and HVAC systems that maintain optimal temperature control and used for connections in variable frequency drives (VFDs) that control cooling system motors.
- **Renewable Energy & Microgrid Integration:** Supports solar and battery storage integration within green data center initiatives as well as DC power distribution systems for energy-efficient operations.
- **Why Cobra X-Flex® for Data Centers?** Highly flexible, durable installation, UL & CSA certified, and optimized for high-amperage applications.

Power Distribution Equipment Utilizing Cobra X-Flex®

Cobra X-Flex® cables are ideal for high-amperage, flexible power distribution applications in data centers. Below is a breakdown of specific electrical power distribution equipment that benefits from Cobra X-Flex® usage:

Equipment	Cobra X-Flex® Application	Key Benefits
UPS Systems	Battery connections, AC output wiring	High flexibility, heat resistance
BESS Systems	DC interconnections, inverter links	Handles HVDC, oil & acid resistant
Transformers	Primary/secondary winding connections	Withstands thermal expansion
PDUs	Main power feeds, rack power distribution	Compact bend radius, high amperage
RPPs	Server rack power feeds	Quick deployment, flexible wiring
Switchgear	Feeder cables, bus connections	UL-rated, oil & heat-resistant
Generators	Output wiring, backup feeds	Handles current surges, diesel-resistant
ATS	Utility to backup power transition	Low impedance, fast transfer
Busway Systems	Power busbar interconnects	Scalable, flame-resistant

FEATURES & BENEFITS OF COBRA X-FLEX® VS. ALTERNATIVE CABLES

Cobra X-Flex® cables offer distinct advantages over traditional power cables, making them ideal for data center electrical distribution applications.



Superior Flexibility & Ease of Installation



Durability & Environmental Resistance



Enhanced Safety & Compliance



Higher Ampacity & Lower Voltage Drop

ADVANTAGES FOR KEY STAKEHOLDERS

Data Center Operators

- Lower energy losses (reduced voltage drop, improved efficiency).
- Less maintenance & longer lifespan (durable insulation for harsh conditions).
- More uptime & reliability (reduces electrical failures & downtime risks).

Electrical Installers

- Faster installation (easier cable pulls & terminations).
- More adaptable for retrofits and tight conduit spaces.
- Lower labor costs (less manpower & time needed for installation).

Electrical Equipment Manufacturers

- Reduced material usage (smaller gauge required for same ampacity).
- Easier integration due to high flexibility (allows compact enclosure designs).
- Higher reliability reduces warranty claims.

COBRA X-FLEX® IN DATA CENTER POWER DISTRIBUTION

Cobra X-Flex® provides a clear competitive advantage over alternative cables in data center applications. Its flexibility, durability, higher efficiency, and safety features make it the preferred choice for manufacturers, installers, and operators.

Data Center Operators

- Maximized Energy Efficiency
- Improved Reliability
- Meets future-ready sustainability goals

Electrical Installers

- Faster installations, lower project costs
- Reduced need for oversized conduit
- Easier cable handling

Electrical Equipment Manufacturers

- Easier to integrate into compact equipment designs
- Reduces risk of installation errors
- Enhances equipment lifespan