

Amphenol

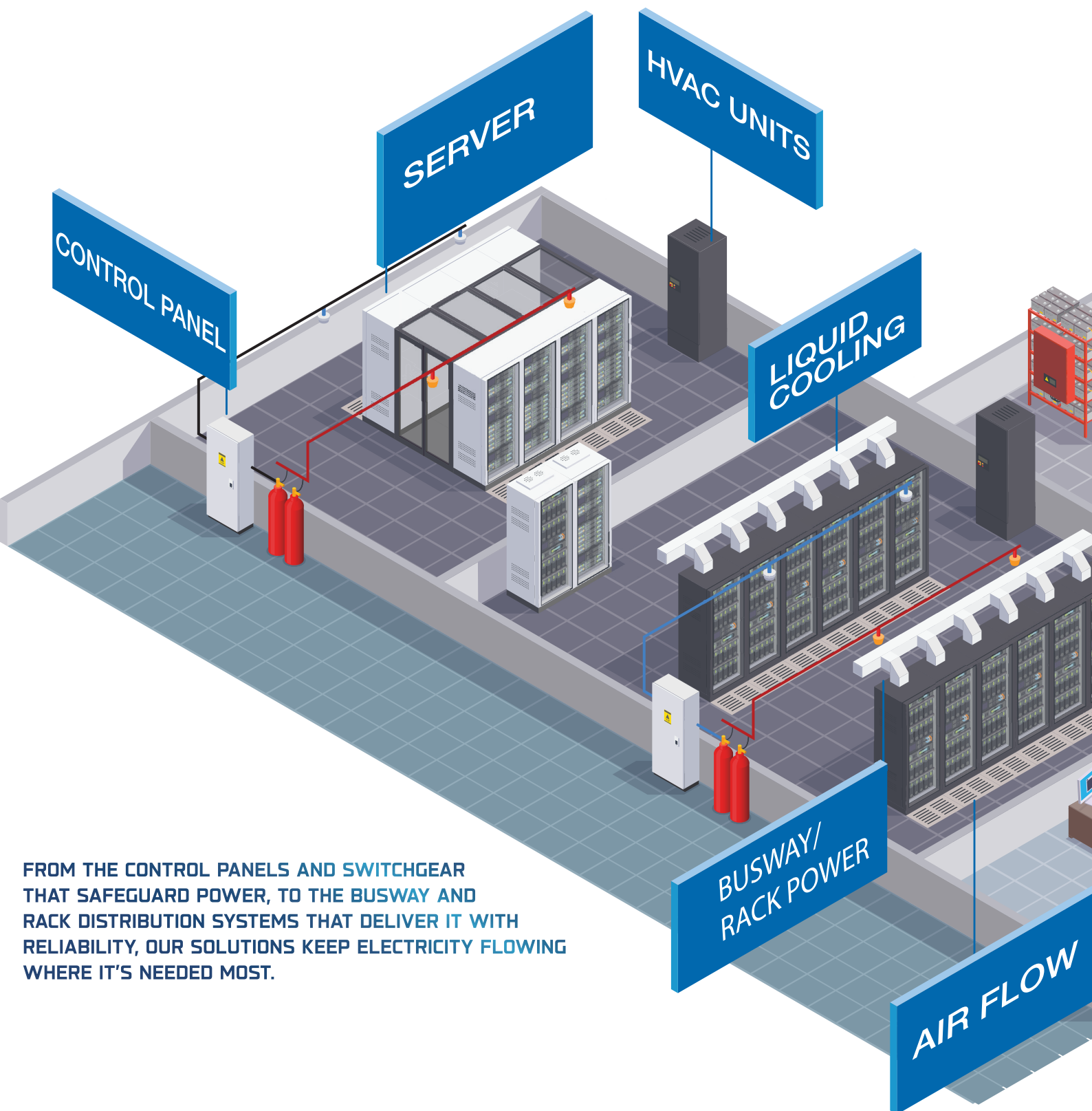
NEXT-GEN CONNECTIVITY FOR Advanced Data Infrastructure



AMPHENOL PROVIDES THE BROAD RANGE OF TECHNOLOGIES THAT OEMS AND ENGINEERS RELY ON TO DESIGN THE INFRASTRUCTURE BEHIND TODAY'S DATA CENTERS. OUR SOLUTIONS SUPPORT EVERY CRITICAL SYSTEM—FROM RELIABLE POWER DISTRIBUTION AND ALTERNATE ENERGY INTEGRATION TO ADVANCED LIQUID COOLING, ENVIRONMENTAL SENSING, AND RUGGED CONNECTIVITY. BY ENHANCING UPTIME, EFFICIENCY, AND SAFETY, AMPHENOL ENABLES THE CREATION OF SCALABLE, FUTURE-READY DATA CENTERS CAPABLE OF MEETING THE INCREASING DEMANDS OF DIGITAL TRANSFORMATION.



AMPHENOL IS AT THE CORE OF THE AI-DRIVEN DATA CENTER, DELIVERING THE ESSENTIAL TECHNOLOGIES THAT ENABLE EVERY CRITICAL SYSTEM TO PERFORM AT ITS BEST.

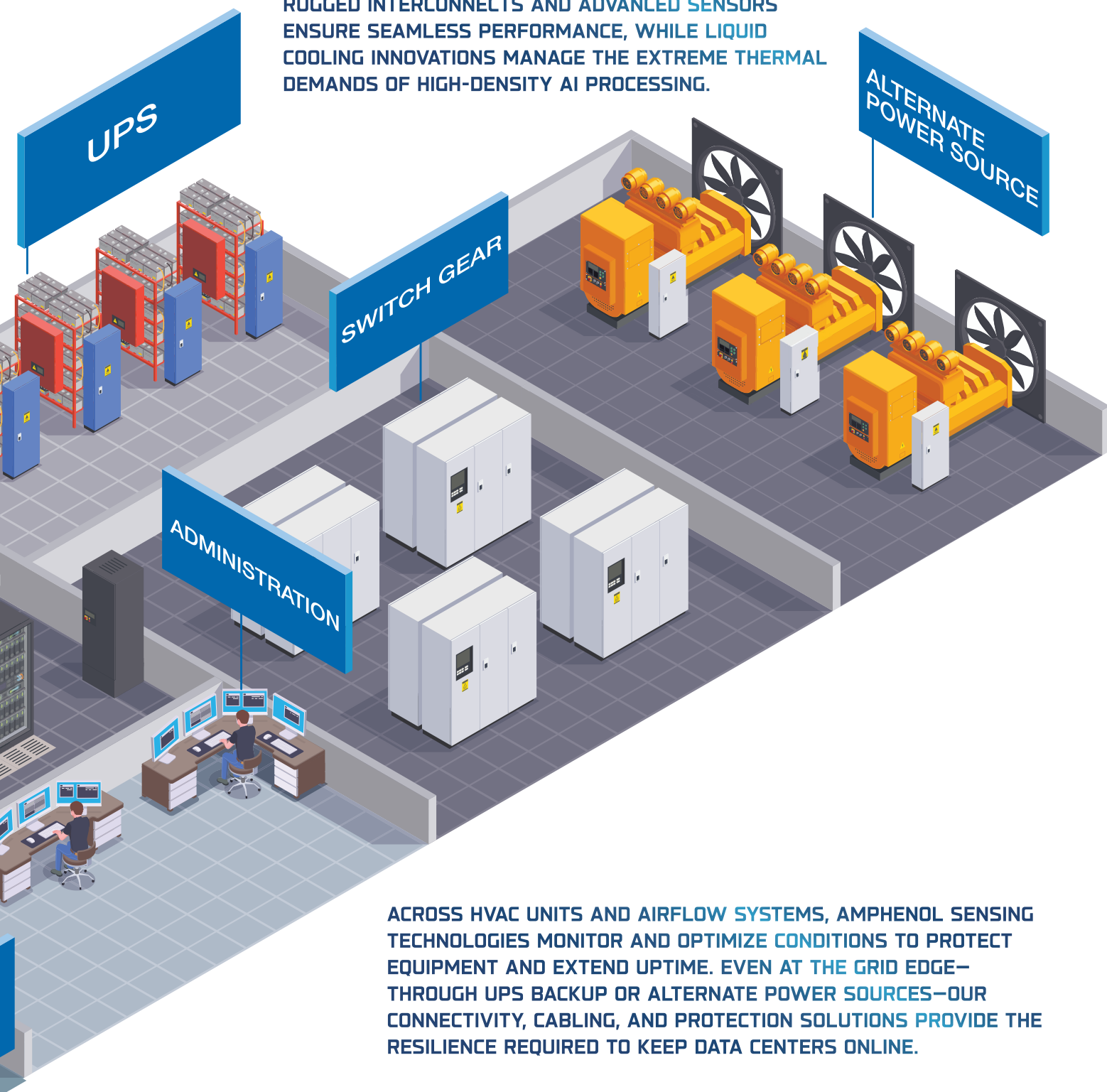


FROM THE CONTROL PANELS AND SWITCHGEAR THAT SAFEGUARD POWER, TO THE BUSWAY AND RACK DISTRIBUTION SYSTEMS THAT DELIVER IT WITH RELIABILITY, OUR SOLUTIONS KEEP ELECTRICITY FLOWING WHERE IT'S NEEDED MOST.

TOGETHER, THESE TECHNOLOGIES FORM THE UNSEEN BACKBONE THAT OEMS AND ENGINEERS DEPEND ON



IN SERVER HALLS AND ADMINISTRATION AREAS, RUGGED INTERCONNECTS AND ADVANCED SENSORS ENSURE SEAMLESS PERFORMANCE, WHILE LIQUID COOLING INNOVATIONS MANAGE THE EXTREME THERMAL DEMANDS OF HIGH-DENSITY AI PROCESSING.



ACROSS HVAC UNITS AND AIRFLOW SYSTEMS, AMPHENOL SENSING TECHNOLOGIES MONITOR AND OPTIMIZE CONDITIONS TO PROTECT EQUIPMENT AND EXTEND UPTIME. EVEN AT THE GRID EDGE—THROUGH UPS BACKUP OR ALTERNATE POWER SOURCES—OUR CONNECTIVITY, CABLING, AND PROTECTION SOLUTIONS PROVIDE THE RESILIENCE REQUIRED TO KEEP DATA CENTERS ONLINE.

TO DESIGN THE NEXT GENERATION OF INTELLIGENT, ENERGY-EFFICIENT, AND SCALABLE DATA CENTERS.

CONTROL PANEL

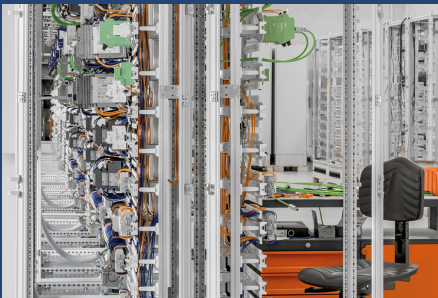
Control panels form the backbone of data center operations, providing centralized platforms to monitor, control, and optimize critical infrastructure. Amphenol supports this environment with solutions that protect panel circuits, ensure reliable cable entry, and deliver long-term wiring performance. Advanced wire management systems simplify organization, while durable cabling enables efficient motor control and stable operation. Together, these technologies improve safety, reduce energy use, and streamline maintenance, helping data centers achieve higher efficiency and uptime while supporting scalable growth.



LUTZE DRIVEFLEX® VFD cables connect drives to motors, enabling precise control of cooling systems. XLPE insulation and EMI shielding ensure reliable signal transmission, energy efficiency, and stable performance in sensitive data center environments.



LUTZE LOCC-Box ECBs protect control panel circuits with fast, reliable overload and short-circuit response. Compact and remotely resettable, they enhance uptime and simplify power management in data centers.



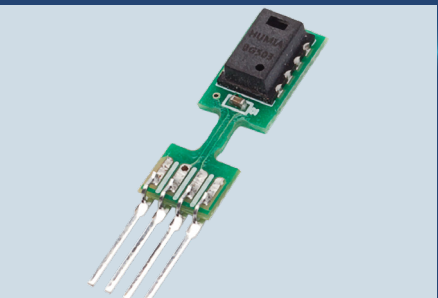
AirSTREAM wiring system is a streamlined, space-saving solution for control panel wiring, improving airflow and reducing heat buildup in control panels. Its compact, organized layout boosts cooling efficiency, simplifies maintenance, and enhances reliability in dense data centers.



Amphenol cable glands offer liquid-tight, secure cable entry with IP65/67/68 protection. Available in brass or UL94V-2 nylon with Metric/PG threads, they ensure safe, durable connections for reliable uptime in critical data center control panels.



ATPC Control & Instrumentation cables are used for transmitting low-voltage signals and data for precise control and monitoring of systems and processes throughout the data center.



Telaire Chip Cap SIP, Chip Cap 2, and HS20 sensors use capacitive sensing to monitor humidity, protecting electronics from corrosion. They deliver real-time data for HVAC control, ideal for reliable, fast-response monitoring in power zones.



Thermometrics NTC/PTC thermistors vary resistance with temperature. NTCs enable precise monitoring in racks and PDUs; PTCs offer over-temp protection. Compact size allows direct mounting, aiding cooling control and preventing thermal failures.



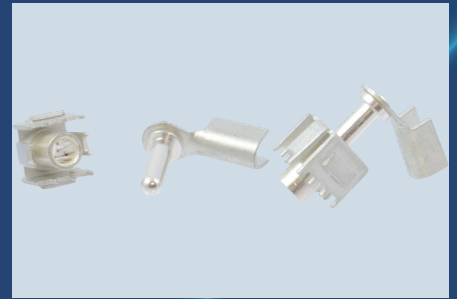
Thermometrics Temperature Sensor Assemblies combine thermistors with protective housings for accurate, localized readings in dusty, high-vibration areas. Integrated with control systems, they optimize cooling and prevent thermal-related failures.



Liquid Cooling Quick Disconnects -UQD, UQDB, BMQC - quick-disconnects provide leak-resistant coolant connections for liquid-cooled servers, enabling fast servicing and efficient thermal management in high-density data centers.



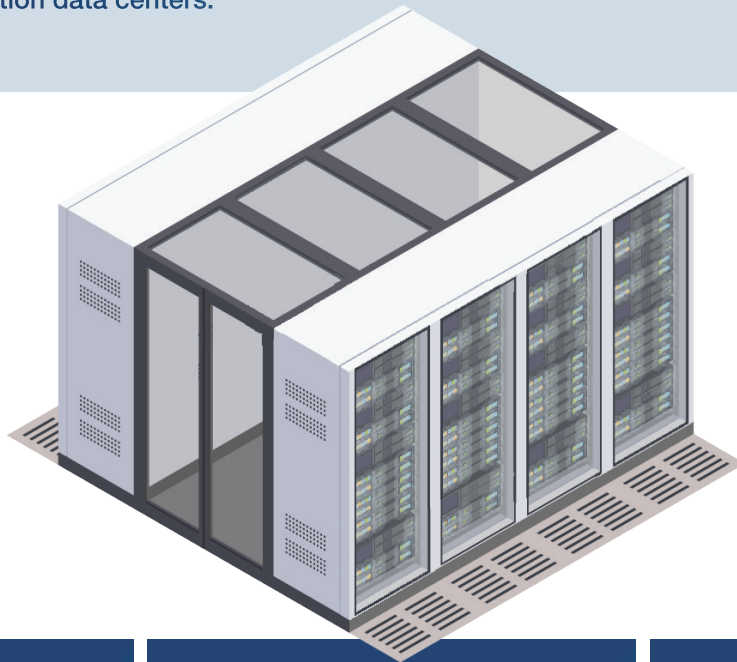
Amphe-PD™ Mini & Gen2 are compact, high-current RADSOK® connectors deliver up to 150 A at 500 V DC, ensuring efficient power transfer in tight server racks with reduced heat, resistance, and cable bulk.



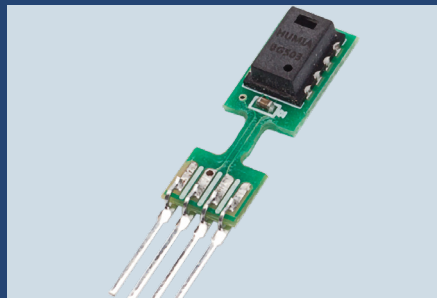
RADSOK® PowerBlok™ WTB are low-profile wire-to-board connectors providing up to 70A at 500 V DC, maximizing PCB space and ensuring efficient, reliable power routing for dense AI, datacom, and server systems.

SERVER

Amphenol delivers the essential technologies that power and protect today's high-performance servers. Our solutions ensure efficient power transfer within dense racks, helping manage high currents while minimizing heat and space usage. Compact interconnects and board-level connections support reliable operation under demanding AI and datacom workloads, while rugged fiber-optic systems maintain high-speed, EMI-immune data transfer for uninterrupted performance. To address growing thermal challenges, our liquid cooling solutions enable safe, leak-resistant servicing and efficient heat removal. Together, these innovations allow engineers to design servers that are more powerful, reliable, and scalable for next-generation data centers.



Amphe-Lite™ delivers rugged composite interconnects with optional fiber-optic termini, ceramic alignment sleeves, and EMI shielding for reliable, high-speed data, power, and signal applications for dense



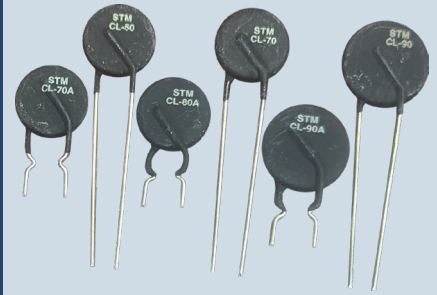
Telaire Chip Cap SIP, Chip Cap 2, and HS20 sensors use capacitive sensing to monitor humidity, protecting electronics from corrosion. They deliver real-time data for HVAC control, ideal for reliable, fast-response monitoring in power zones.



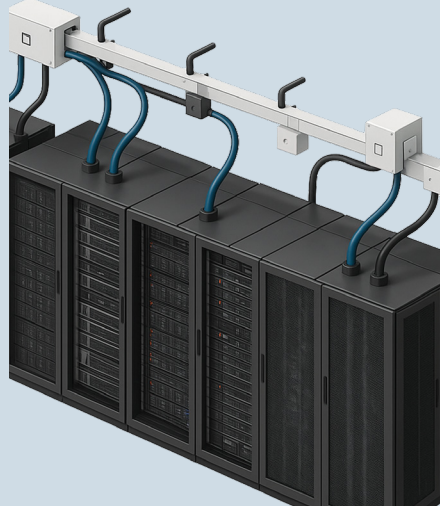
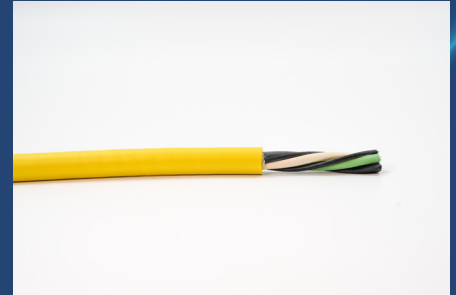
Designed for critical power distribution in data centers, Amphe-PRB offers compact, rugged circular connectors, tool-less installation, and scalable performance for future power needs.

BUSWAY/RACK POWER

Busway and rack power are essential to powering modern data centers, ensuring safe and efficient distribution of energy to critical systems. Amphenol supports these applications with a broad portfolio of interconnect, cabling, and protection solutions engineered for uptime, safety, and scalability. From high-current connections and sealed terminations to flexible cable assemblies, cords, and overcurrent protection devices, our technologies help data centers maintain high reliability while safeguarding against overload and short circuit hazards.



Thermometrics Current Limiters
PTC-based devices respond quickly to overcurrent, limiting excess flow and automatically resetting, protecting sensitive



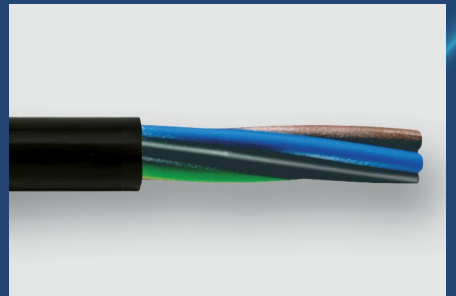
TPC Wire and Cable Super-Trex®
Ultra-Gard® is flexible, heavy-duty cable designed for durability, abrasion resistance, and reliable power delivery in high-demand busway and rack applications.



LUTZE SILFLEX® Tray-ER TPE cable offering flexibility, flame resistance, and long service life, ensuring safe, reliable power distribution in rack systems.



Amphenol Energy Power Whips
Factory-assembled, tested whips simplify installation, reduce labor time, and provide safe, reliable rack power connections in data centers.



LUTZE - SEOOW Cord
Flexible, oil- and sunlight-resistant cord ideal for portable power and routing in confined data center spaces, delivering dependable performance.



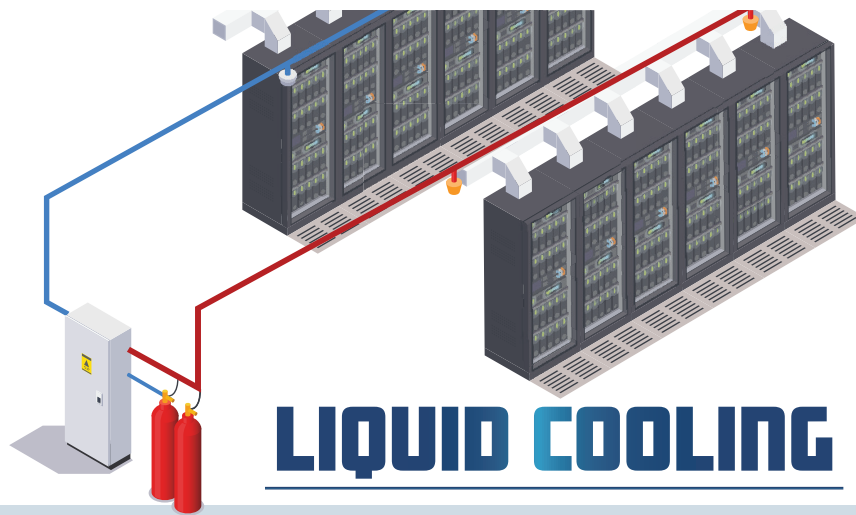
SurLok Plus® up to 300A and beyond, is suitable for highest power distribution systems. Proven RADSOK® contact offers low reliable connection, in a tool-less compression lug. Available individually or ganged multi-pin configurations for phased power applications. level power distribution.



Big power, smaller package: Amphe-GTR™ handles 100 A with RADSOK® efficiency in a connector half the size of IEC 60309—perfect for compact data center infrastructure. support future growth.



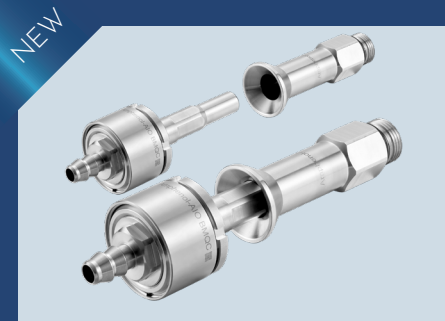
Designed for critical power distribution, Amphe-PRB is suitable up to 60A, within a compact <1RU (Rack Unit) size. The tool-less installation is scalable for rapid deployment.



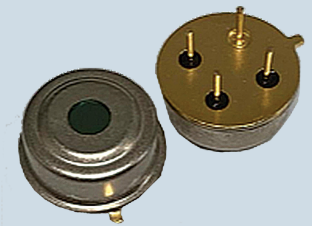
Liquid cooling is essential for managing the heat generated by high-density servers in modern data centers, delivering greater efficiency and reliability than air cooling alone. Amphenol Industrial Operation's BMQC, UQD, and UQDB quick disconnect couplings provide secure, spill-free connections with low flow resistance, enabling rapid maintenance and optimized thermal performance. Supporting these systems, LUTZE DRIVEFLEX® VFD cables power pumps and fans for coolant flow, while Telaire sensors and Thermometrics IR sensors monitor humidity, air quality, and temperature to protect equipment and ensure uptime. Together, these solutions enable safe, efficient, and continuous operation of liquid-cooled data center infrastructure.



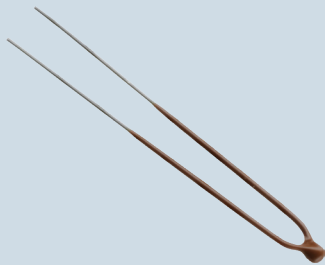
LUTZE DRIVEFLEX® VFD cables connect pumps and fans in liquid cooling systems, reducing EMI and ensuring energy-efficient, reliable cooling for high-density data centers.



Amphenol Industrial Operation's BMQC solutions are OCP-standard couplings offer secure and leak-free connections with aerospace-grade sealing for efficient, reliable liquid cooling performance.



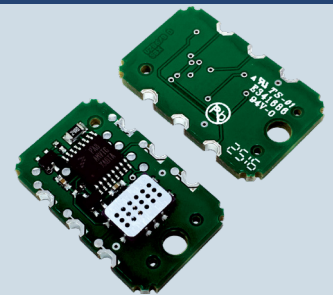
Thermometrics IR Sensor
Non-contact IR technology monitors surface temperatures in liquid-cooled systems, detecting hot spots early to support predictive maintenance and uptime reliability.



Thermometrics NTC/PTC Thermistors
Compact thermistors track localized temperatures on critical liquid cooling components, providing precise data for protection against over-temp failures.



Amphenol Industrial Operation's UQDD & UQDB solutions are OCP-standard couplings for CDUs and servers, offering secure, leak-free connections with aerospace-grade sealing for efficient, reliable liquid cooling performance.



Telaire Sensors (Humidity & VOC)
High-accuracy sensors monitor humidity and air quality in liquid-cooled data centers, providing early detection of risks like corrosion and harmful contaminants.

HVAC

Efficient thermal management is essential to the performance and reliability of modern data centers. Amphenol supports both air-based HVAC systems and liquid cooling technologies that regulate temperatures in high-density environments. From directing airflow across critical equipment to enabling safe, leak-resistant liquid cooling connections, our solutions help maintain stable operating conditions while reducing energy use. Environmental sensors provide continuous monitoring of humidity, temperature, and air quality, enabling proactive control and predictive maintenance. Together, these innovations protect sensitive hardware, extend equipment life, and support the uptime and efficiency demanded in today's data centers.



Trex-Onics® Low Capacitance VFD Shielded Power Cable provides superior EMI/RFI protection with tinned copper braid, marked conductors for easy ID, and long-lasting performance in critical applications.



LUTZE DRIVEFLEX® VFD cables connect drives to HVAC motors, delivering precise control of fans, pumps, and compressors while reducing EMI. Flexible, durable design ensures reliable cooling for mission-critical data centers.



Telaire HumiTrac monitors humidity and temperature in data centers, preventing static buildup and heat damage. Real-time readings enable alerts, protecting equipment, improving efficiency, and extending infrastructure life..



Telaire HumiTrac XR provides continuous, accurate humidity and temperature tracking with real-time data and alerts, helping data centers safeguard equipment, prevent failures, and improve operational efficiency.



Telaire T8000 Series provides continuous CO₂, temperature, and humidity monitoring for data centers, ensuring air quality, preventing static and overheating, and enabling efficient, reliable facility operation.



RADSOK® PowerBlok™ WTB connectors provide low-resistance, high-power transfer in a compact design, supporting data center switchgear, battery storage, and backup generation with reliable performance.



SurLok Plus® up to 300A and beyond, is suitable for highest power distribution systems. Proven RADSOK® contact offers low reliable connection, in a tool-less compression lug. Available individually or ganged multi-pin configurations for phased power applications. level power distribution.



AET Medium Voltage Couplers deliver reliable 600 V to 15 kV power with RADSOK® technology for higher current capacity. Rapid-Couple™ design ensures secure, sealed connections ideal for critical data center grids.

UTILITY GRID/ALTERNATE POWER

Reliable utility connections are essential to keeping data centers powered and operational, even during maintenance or grid disruptions. Alternate power sources and backup systems demand robust solutions to manage high voltages safely and efficiently. Amphenol delivers a complete portfolio for these applications, including medium voltage couplers, connectors, cable glands, and deployment systems engineered for secure installation and consistent power delivery. From grid integration to alternate power support, Amphenol technologies provide the durability, safety, and performance required to keep critical operations running without interruption.



Engineered to UL 1072 and ICEA/AEIC standards, ATPC Type MV cables provide flexible configurations up to 35kV with custom insulation, shielding, and armor options for reliable medium voltage distribution.



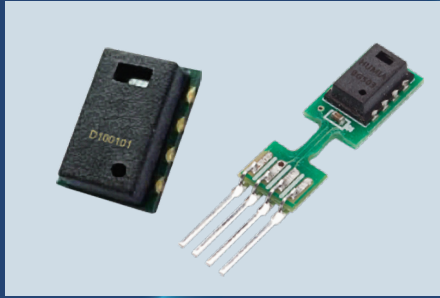
ATPC Medium Voltage Deployment Trailers use gas/hydraulic power for safe, quick cable handling. Standard or custom models provide secure, efficient deployment in temporary and emergency power situations.



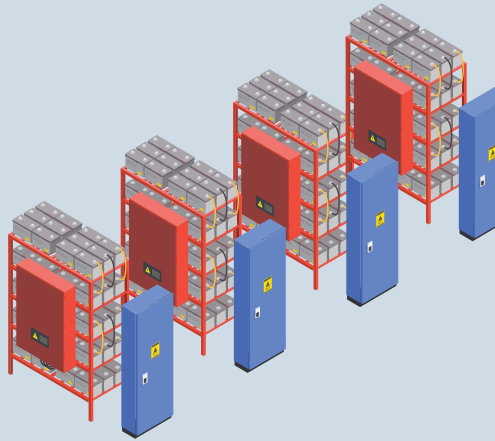
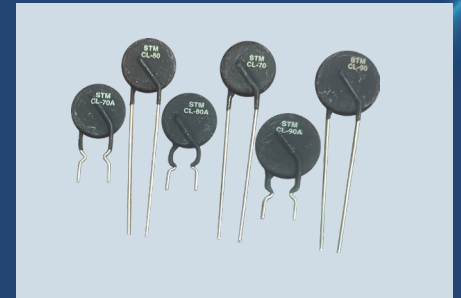
GuardXcel™ Cable Glands deliver robust sealing and strain relief for cables at critical data center power entry points, ensuring protection against dust, water, and temperature extremes indoors or outdoors.

UPS

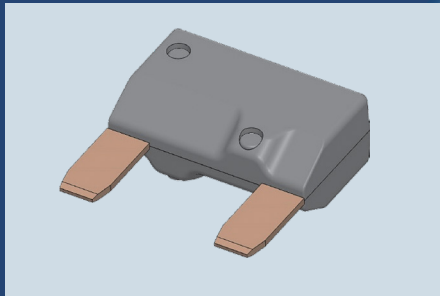
UPS, or Uninterruptible Power Supply, is a reserve power system available in case of a power outage. This backup battery system automatically activates during a failure, providing continuous power and avoiding costly downtime from damaged equipment or loss of data. UPS systems, used in conjunction with generators, provide seamless power transition and allow data centers to remain online for critical applications. UPS systems provide the critical protection data centers rely on, maintaining uptime during outages and preventing costly disruption or data loss. Key products for UPS include equipment used to maintain safe power distribution while utilizing sensors to reduce operator interference when monitoring conditions in the facility.



The Telaire Chip Cap SIP, Chip Cap 2, and HS20 use capacitive sensing to monitor humidity by detecting changes in capacitance as moisture levels vary. They help maintain optimal humidity to protect electrical components from corrosion or short circuits.



Thermometrics Temperature Sensor Assemblies combine a temperature-sensing element, like an NTC or PTC thermistor, with a protective housing and wiring for easy installation. In a data center, they measure temperatures of server racks, cooling units, and switch gear components with high accuracy.



Thermometrics Current Limiters are PTC-based devices that increase resistance when current exceeds a set threshold, effectively limiting excess flow. In a data center, they protect sensitive equipment from overcurrent conditions. When an overcurrent event occurs, the limiter "trips," reducing current and preventing overheating or electrical damage.



The Amphe-Phase is a high-current, single-pin connector designed for safe and efficient power distribution in UPS systems. It features IP2X finger-proof protection on both source and drain sides, preventing accidental contact with live parts.



The Amphe-PD™ Mini & Gen2 connectors deliver compact, high-current power connections ideal for UPS systems in data centers. In these applications, they enable efficient power transfer from the UPS to PDUs and server racks, supporting continuous uptime during grid disruptions.



RADSOK® PowerBlok™ WTB connectors enable high-current wire-to-board power in UPS systems. Compact design supports dense layouts with low resistance and reliable performance.



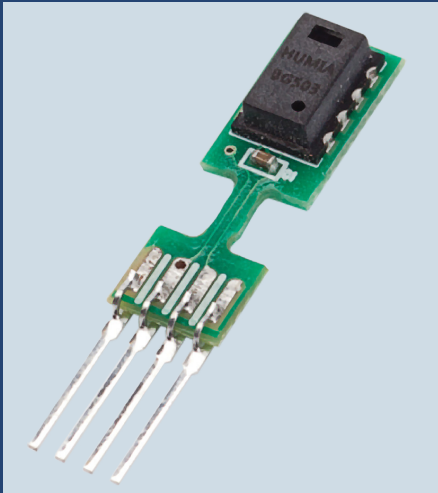
SurLok Plus® up to 300A and beyond, is suitable for highest power distribution systems. Proven RADSOK® contact offers low reliable connection, in a tool-less compression lug. Available individually or ganged multi-pin configurations for phased power applications. level power distribution.



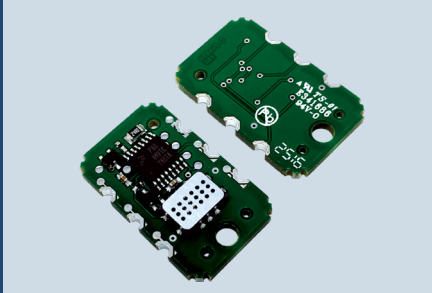
GuardXcel™ Cable Glands provide secure sealing and strain relief for cables entering UPS cabinets, battery enclosures, and PDUs. They protect against dust, moisture, and vibration, maintaining cable integrity and preventing premature wear.

AIR FLOW

Efficient air flow is essential for maintaining optimal temperatures and preventing the overheating of critical components in data centers. By ensuring that cool air is directed to IT equipment and hot air is effectively removed, air flow management preserves hardware performance and extends system longevity. Well-designed air flow strategies also reduce energy consumption, enhance reliability, and support more sustainable operations. To complement these systems, Amphenol environmental sensors—including humidity, VOC, infrared, and temperature devices—continuously monitor conditions. By detecting moisture, harmful gases, or heat buildup, they enable real-time HVAC adjustments and predictive maintenance. Integrated into advanced control systems, these technologies optimize air flow, safeguard sensitive equipment, and ensure consistent uptime in today's high-density environments.



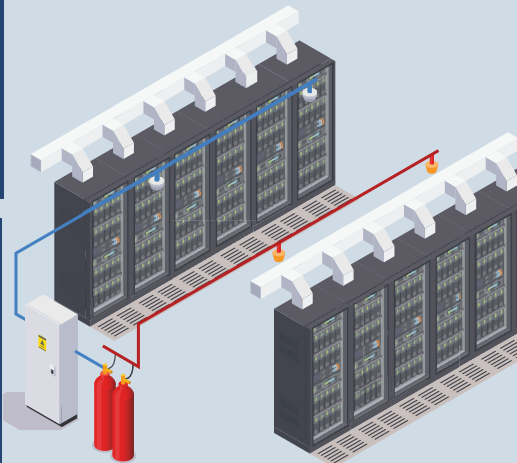
Telaire Chip Cap SIP, Chip Cap 2, and HS20 sensors use capacitive sensing to monitor humidity, protecting electronics from corrosion. They deliver real-time data for HVAC control, ideal for reliable, fast-response monitoring in power zones.



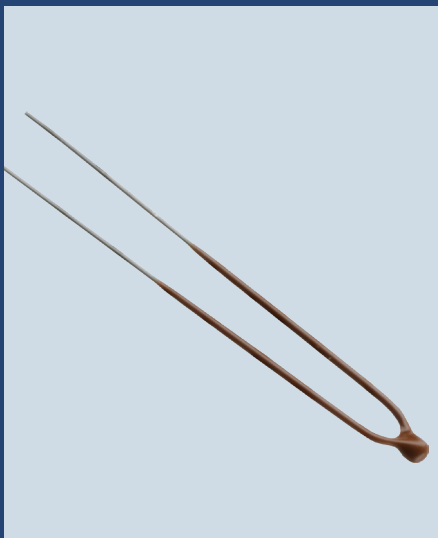
Telaire VOC Sensor uses a MOS element to detect gas-induced resistance shifts, identifying VOCs from insulation failure, thermal stress, or chemicals. Outputs integrate with BMS to trigger ventilation, reducing corrosion and electrical faults.



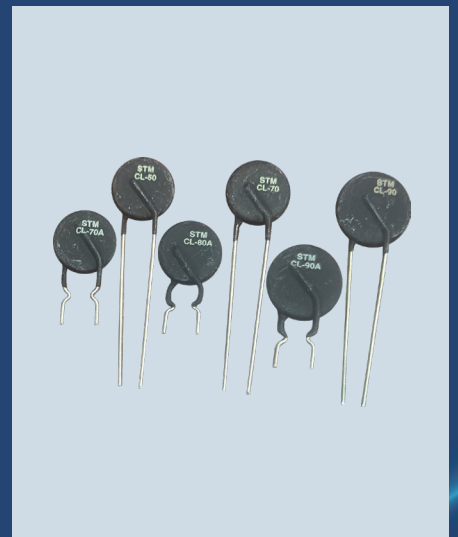
Thermometrics IR Sensor detects surface temperature via infrared radiation, enabling non-contact, rapid scans in energized or tight spaces. Integrated with monitoring systems, it supports predictive maintenance and uptime in data center environments.



Thermometrics Temperature Sensor Assemblies combine thermistors with protective housings for accurate, localized readings in dusty, high-vibration areas. Integrated with control systems, they optimize cooling and prevent thermal-related failures.



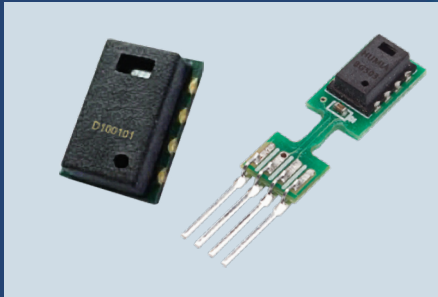
Thermometrics NTC/PTC thermistors vary resistance with temperature. NTCs enable precise monitoring in racks and PDUs; PTCs offer over-temp protection. Compact size allows direct mounting, aiding cooling control and preventing thermal failures.



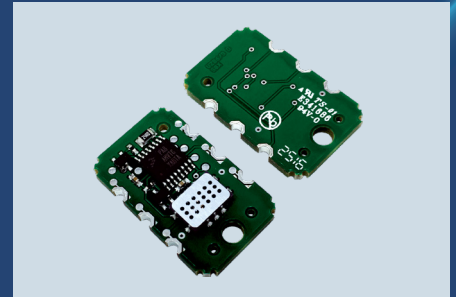
Thermometrics PTC Current Limiters increase resistance during overcurrent events, reducing flow to protect equipment. They auto-reset after cooling, enabling reliable, maintenance-free protection for critical data center infrastructure.

SWITCHGEAR

Data center switchgears are an integral feature allowing data center engineers to control and manage power within their facilities. Though commonly incorrectly used interchangeably with "switchboards", switchgears play a critical role in managing and protecting equipment inside data centers. Traditional switchboards are more closely related to circuit breaker boxes which safely distribute power across circuits and protect against voltage spikes. Switchgears also shield against excess voltage, while simultaneously controlling electrical voltage, flow and guard equipment against jumps or drops in power which could cause catastrophic equipment failure. Key products for switchgears include sensors to quickly identify parts of the facility receiving too much or too little power, while also utilizing medium voltage connectors and high quality cabling to ensure maximum power efficiency at all times.



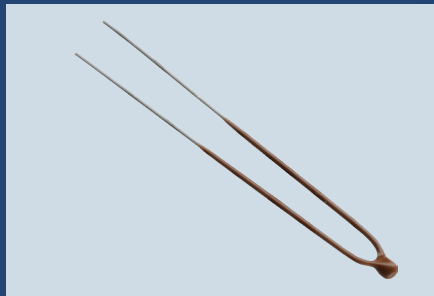
With capacitive sensing, Telaire Chip Cap SIP, Chip Cap 2, and HS20 monitor humidity to protect electrical components in data centers, preventing corrosion, condensation, and performance issues.



Telaire VOC Sensor detects harmful gases using metal oxide semiconductor technology. It identifies contaminants from insulation breakdown, overheating parts, or cleaning chemicals in data centers.



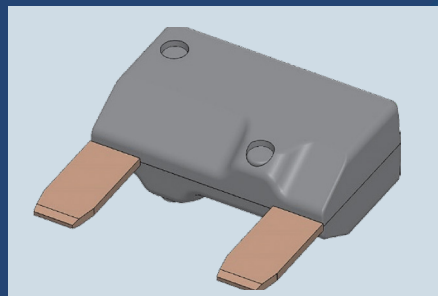
The Thermometrics IR Sensor detects infrared radiation for accurate, non-contact temperature measurement. Ideal for data centers, it enables rapid monitoring without interrupting equipment operation.



Thermometrics NTC and PTC thermistors provide precise temperature monitoring and over-temperature protection in data centers, safeguarding server racks, cooling systems, and power distribution units.



Designed for easy integration, Thermometrics Temperature Sensor Assemblies deliver precise monitoring of data center racks, cooling systems, and switchgear with robust housings for durability and reliability.



Thermometrics Current Limiters use PTC technology to protect data center equipment from overcurrent. They trip under excess flow, reducing current to prevent overheating and electrical damage.



Engineered for reliability, MVC Medium Voltage Couplers provide 600 V, 8 kV, and 15 kV power with patented RADSOK® technology, ensuring higher current capacity and cooler, efficient performance.



ATPC Super-Trex® Single Conductor Power Cable is utilized in high-current Switchgear interconnection applications.

ADMINISTRATION

Seamless Administration. Unified Expertise.

The administration layer of a data center is where efficiency, security, and performance converge. These environments require precise monitoring of air quality, temperature, and humidity, along with reliable connectivity and infrastructure. Amphenol delivers the sensing and interconnect technologies that keep support spaces and management systems running smoothly. Our solutions help maintain healthy conditions, ensure reliable data and power connections, and provide the confidence needed to operate critical facilities without interruption.



The Telaire Humitrac is a temperature and humidity transmitter used in data centers to provide continuous environmental monitoring.



The Telaire T8000 Series consists of wall-mounted CO₂ sensors used in data center support offices to monitor air quality and optimize ventilation.



The Telaire T5100 Series consists of duct-mounted CO₂ sensors used in data center support offices to monitor air quality and optimize HVAC performance.



Telaire T8700 Relative Humidity & Temperature Transmitter is for HVAC control applications that uses Amphenol's ChipCap Sensor, for quick field replacement, and eliminating recalibration.



Telaire EHRH Waterproof Relative Humidity Transmitter is designed for continuous monitoring of relative humidity and temperature and is available in $\pm 2\%$ accuracy.



The Modus Series T pressure Transmitters are an excellent choice for many HVAC, process and automation monitoring requirements.

TELAIRE[®]
AN AMPHENOL COMPANY

As the world's first and leading manufacturer of Non-Dispersive Infrared (NDIR) Carbon Dioxide (CO₂) Sensors, Telaire has been on the forefront of CO₂ sensing technology for over 25 years.

AMP UP YOUR DATA CENTER



Amphenol
Industrial

Amphenol Sensors



Amphenol
Energy Technologies