

SECTOR FOCUS



WILSON
POWER SOLUTIONS

DATA CENTRES

Powering AI with resilient networks



The global data centre industry is undergoing substantial growth, driven by the rising demand for data storage solutions and the increasing adoption of High-Performance Computing (HPC), Artificial Intelligence (AI), and Internet of Things (IoT) technologies.

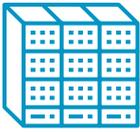
As personal and business activities become increasingly digital, the **industry's expansion** is underpinned by the critical requirement for uninterrupted uptime, making reliability a non-negotiable priority for operators.

Alongside this growth, operators face rising pressure to improve energy efficiency, sustainability, and resilience. Power distribution strategies are evolving to reduce losses, manage higher load densities, and support **scalable expansion**, while meeting tighter regulatory and environmental commitments.

Data Centre growth comes with significant challenges, particularly around energy consumption and sustainability. The International Energy Agency (IEA) indicated that by 2026, the power demand from data centres could double compared to 2022 levels, accounting for over **3% of global energy consumption**. The increased power demand highlights the pressing need for energy-efficient equipment to control operational costs and mitigate carbon emissions whilst ensuring the reliability of power supply. This has accelerated investment in smarter power infrastructure and low carbon technologies that can support long-term decarbonisation targets without compromising uptime.

Data centres depend on **robust electrical infrastructure** to ensure reliable power delivery, and transformers play a critical role in making that happen. Whether connecting into the grid or distributing power across site, data centres can interface at a range of voltage levels including **400kV, 275kV, 132kV, 66kV and 33kV**, depending on capacity requirements and local network design.

To support these demands, we provide a range of transformer solutions suited to data centre environments, including both **MV transformers** and **grid transformers**. Built for performance, reliability and long-term efficiency.



TRANSFORMERS FOR DATA CENTRES

Transformers are core to data centre electrical infrastructure and are responsible for delivering **stable, efficient and resilient power** under rapidly increasing load requirements. With global demand rising due to the adoption of HPC, AI, and IoT, operators face escalating challenges related to energy consumption, thermal performance, and regulatory compliance.

We supply our transformer to many **landmark data centres** in the UK, ensuring a reliable electricity supply, managing harmonics, and maintaining power quality to support continuous uptime. Our transformers are designed following strict electrical standards, and we work with **DNOs** or **iDNOs** to supply transformers build to the necessary specifications.

We offer power and distribution transformers across multiple voltage classes, including KNAN ester-filled units with higher flash and fire points, **low-loss amorphous transformers** exceeding Tier 2 efficiency levels and K-factor transformers engineered for non-linear IT loads. We also provide packaged MV and LV switchgear and cabinets and ancillary monitoring and protection systems to ensure asset health and the ability to detect faults.

MV TRANSFORMERS SOLUTIONS

As data centres increasingly connect to higher-voltage grids to address connection availability and capacity constraints, MV transformers become essential to reliable power delivery. Multiple step-down stages are required to reach distribution voltages, enabling **effective load balancing** across the facilities. We offer solutions for data centres with modular MV transformer designs that support both N+1 and 2N redundancies. N+1 is best suited for environments with moderate risk tolerance, such as small-to-medium data centres or non-mission-critical applications. 2N redundancy is recommended for mission-critical facilities, such as hyperscale or Tier 3/4 data centres, where zero downtime and maximum reliability are required. Both solutions offer resilience and continuous operation during failures or planned maintenance.

POWER TRANSFORMERS

Up to 300MVA at 400kV

Our power transformers come with a wide range of voltage options to cater to different grid connection points and allow enhanced voltage regulation with On-Load Tap Changers (OLTC) power stability enhancement and efficient energy transfer. Large-scale data centres, server farms, cloud computing facilities or blockchain and crypto mining farms will need **high-capacity Power Transformers** for efficient voltage management and a stable power supply. Wilson Power Transformers ensure reliable energy transmission, grid stability, and voltage regulation, making them vital for **critical IT infrastructure**.

Product Specification

- Primary Voltage Levels: 400kV, 275kV, 132kV, 66kV, 33kV and other bespoke voltages.
- Secondary Voltage Levels: 132kV, 66kV, 33kV, 11kV, 6.6kV, 3.3kV or other bespoke voltages and optional dual LV windings
- Vector Groups: YNd1, YNd11, YNd5, YNd1d1, YNd11d11, YNd5d5, or any other vector group as per IEC 60076
- Enhanced transformer ratings options: ONAN, Continuous Emergency Rating (CER) and Continuous Maximum Rating (CMR)



CRGO MV TRANSFORMERS

Up to 5000kVA



Wilson T2 EcoTrans® Distribution Transformer is built with cold rolled grain-oriented steel (CRGO) and is a **highly cost-effective** Tier 2 Ecodesign-compliant transformer. It is a suitable choice for budget-sensitive projects. Wilson T2 is a liquid-immersed transformer available in both ONAN (mineral oil) and KNAN (synthetic ester, or natural ester for improved fire safety) options. We offer a range of stocked standard designs, with the option to customise the design and build of your transformer to meet site specific requirements. We also supply bespoke, hermetically sealed transformers.

Product Specification

- Primary Voltage Levels: 33kV, 11kV, 6.6kV or bespoke
- Secondary Voltage Levels: single or dual low voltages such as 800V, 433V, 420V, 417V, 400V, 420-420V, etc.
- Vector Groups: Dyn11 or Dyn1, Dyn11yn11, Dyn5yn11 or any other vector group as per IEC 60076
- Available in synthetic ester (MIDEL) and natural ester (FR3) for self extinguishing cooling liquids and higher flash and fire points
- De-Energised Tap Changer (DETC) as standard for voltage regulations, or On-Load Tap Changer (OLTC) for automatic voltage regulation under fluctuating loads.
- Available in synthetic ester (MIDEL) and natural ester (FR3) for self extinguishing cooling liquids and higher flash and fire points

AMORPHOUS TRANSFORMERS

Up to 3000kVA

Our Wilson e4 Ultimate Low Loss Amorphous® Transformer is **Europe's most efficient** distribution transformer; reducing operational costs while cutting carbon emissions. Amorphous transformers offer **27% lower** combined load and no-load losses compared to the industry standard Ecodesign Tier 2. This reduces the energy waste by 10MWh/PA on a small 1MVA transformer. Using ancillaries like the on-load tap changer available with Wilson e4+ will allow for unparalleled **carbon and energy savings** in addition to voltage regulation.

Product Specification

- Primary Voltage Levels: 33kV, 11kV, 6.6kV or bespoke
- Secondary Voltage Levels: single or dual low voltages such as 800V, 433V, 420V, 417V, 400V, 420-420V, etc.
- Cooling Options: ONAN or KNAN with synthetic or natural ester
- Vector groups: Dyn11, Dyn1, Dyn11yn11 or custom configurations (IEC 60076)
- De-Energised Tap Changer (DETC) as standard for voltage regulations, or On-Load Tap Changer (OLTC) for automatic voltage regulation under fluctuating loads.





AUXILIARY TRANSFORMERS

Up to 4500kVA

Our Auxiliary Transformers play a **crucial role** at data centre hubs by facilitating the substation through stepping up or stepping down voltage levels to match the auxiliary requirements on the local network, such as lighting, CCTV, fire systems etc.

Product Specification

- **Primary Voltage Levels:** 33kV, 11kV, 11-6.6kV or 6.6kV
- **Secondary Voltage Levels:** 433kV, 415V or bespoke
- **Vector Groups:** Dyn11 or Dyn1 or any other vector groups as per IEC 60076



EARTHING TRANSFORMERS

Up to 33kV

Our Wilson Earthing Transformers provide a neutral connection for earthing either directly or via an impedance at data centres or substations to enhance the **safety of the network**.

Product Specification

- **Short Time Current Rating and Duration:**
 - Maximum Current: 1500 amps
 - Duration: 10 seconds
- **Vector Group:** ZN

AUXILIARY & EARTHING TRANSFORMERS

Up to 500kVA

Designed to **integrate the functions of both** Earthing and Auxiliary Transformers into a single unit. This establishes a ground reference for the electrical system while providing power for ancillary services on the private network.

Product Specification

- **Primary Voltage Levels:** 33kV or bespoke
- **Secondary Voltage Levels:** 415V or 433V
- **Short Time Current Rating and Duration:**
 - Maximum Current: 1500 amps
 - Duration: 10 seconds
- **Vector Group:** ZNyn1 or ZNyn11





GLOBAL SWITCH DATA CENTRE

Amsterdam, The Netherlands

Global Switch Amsterdam Data Centre Campus is located close to key Dutch cable infrastructure. The transformers were equipped with HV de-energised tap changers, oil level indicators, winding and oil temperature indicators, and pressure relief devices and were filled with MIDEL synthetic ester, offering **higher flash and fire points** to enhance safety and resilience. Designed to support load balancing and reliable operation during maintenance or faults, the transformers also feature a K-factor rating and were fitted with **electrostatic shielding** to reduce the harmonics passed between the winding to accommodate harmonics generated from non-linear loads.

Scope of work

- Seven 3150kVA 10750/420V KNAN Hermetically Sealed Wilson T2 Ecotrans® Transformers



HEMEL HEMPSTEAD DATA CENTRE

Hertfordshire

Hemel Hempstead Data Centre marks our first UKPN-compliant transformer delivery. Designed to meet stringent UK Power Networks standards, the transformers provide high levels of safety, reliability, and efficiency. Supporting Continuous Emergency Rating (CER), they enable **effective load balancing** by allowing a single transformer to carry the full site load during faults or planned maintenance.

Scope of work

- Two 60/90/120MVA CER 132/33kV Wilson Power Transformers

PETERBOROUGH DATA CENTRE

Cambridgeshire

Peterborough P4 data centre project was completed in collaboration with Anord Mardix. The facility is designed to support 3 MWIT across **1,500m² of IT space**. The hermetically sealed design prevents moisture and contaminant ingress, reducing maintenance, improving cooling efficiency, extending service life, and enhancing safety. The project also included bunds sized to 110% oil capacity with syphon oil filtration for environmental and operational protection.

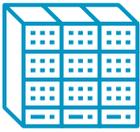
Scope of work

- Four 2.8MVA 11kV/417V Wilson T2 Ecotrans® Transformers
- Eight 2MVA 11kV/417V Wilson T2 Ecotrans® Transformers



OUR CLIENTS





OUR DATA CENTRE PROJECTS

Across the data centre sector, our wide range of transformers support the delivery of resilient, high-performance power infrastructure for facilities of all sizes and complexities. From large-scale campus developments to retrofit and expansion projects, our transformers are engineered to meet demanding uptime, efficiency, and safety requirements while aligning with evolving grid, regulatory, and sustainability expectations.

Working closely with developers, utility companies, and EPC partners, we provide tailored transformer solutions that support load balancing, redundancy strategies, and future scalability. Our proven track record across hyperscale, colocation, and enterprise data centres demonstrates our ability to deliver compliant, reliable equipment and on-site expertise that underpins critical operations and long-term operational confidence.



MOLINS DATA CENTRE

High Wycombe

Molins data centre campus features four data centre buildings with a **total IT load of 75MW** upon full build-out. Spanning 50 acres it has a National Grid contract for **120MVA**, and our transformers play a pivotal role in supporting this high-capacity requirement. Our site team carried out the installation, including the positioning of the tank, radiators, and conservator using a crane. We also managed the connection of pre-fabricated pipework between the radiators and tank and conducted pre-commissioning tests to ensure optimal functionality.

Scope of work

- 120MVA 132/20–20kV Wilson Power Transformer
- Two 300kVA 20kV/415V auxiliary earthing transformers
- Two 20kV 1000A Wilson Earthing Transformers



FELTHAM SERVER FARM

West London

Feltham Server Farm is an **18MW capacity site**, covering 12,000m² which benefits from its proximity to Slough, Hayes, Hounslow, and Park Royal, along with strong connectivity to all major cloud platforms including AWS, Azure, and Google Cloud. The supplied transformer is fitted with a range of ancillaries, including a wall-mounted AVR panel, pressure relief device, conservator and Buchholz relay, and magnetic oil gauge, allowing monitoring and protection. Its advanced features help regulate voltage fluctuations, ensuring **uninterrupted performance** for the facility's critical infrastructure.

Scope of work

- 20MVA 22/11kV Wilson Power Transformer

