

AF Switchgear

BUILT TO LAST!

AF Switchgear

**ADAPTIVE POWER
DISTRIBUTION
SOLUTIONS**



A F Switchgear Limited

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Offices in London, West Sussex and Scotland

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CONTACT DETAILS

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COMPANY OVERVIEW

AF Switchgear established in 1974, is a second-generation family business specialising in the design and manufacture of high quality power distribution systems. Based in Sutton-in-Ashfield, Nottinghamshire, the company headquarters is ideally situated close to motorway and public transport links in the East Midlands.

Four co-located facilities host the following in-house services, Sales & Estimating department, Mechanical and Electrical Engineering design, Control and Monitoring systems design, Metalwork fabrication and painting, Copper bus bar manufacturing, Switchgear assembly and testing, Purchasing and Accounts departments and client conferencing / training facilities.

We have Satellite offices also in London & Scotland and West Sussex for our Bus bar solutions division.

Since AF Switchgear began is has proudly supported many projects in the UK and overseas, exporting to over 40 countries across many market sectors. These sectors include finance, public and commercial offices, telecoms, transport, manufacturing, government, healthcare, retail, leisure and our number one sector – Data Centres. The Data Centre sector alone equates to approx. 40% of our company turnover and is an important part of our business.

For many years key stakeholders in the Data Centre sector have looked to AF Switchgear to help design, supply and support their critical power infrastructure requirements.

Need assistance? Be smart and pick AF Switchgear as YOUR power partner!

- Established since 1974
- Fully type tested to 6300A
- ISO 9001:2015 Accredited
- Standard and bespoke designs
- 100,000 sq ft Production facilities
- 24/7/365 Callout service
- Site services and support with dedicated teams
- Decades of Data Centre experience



FURTHER INFORMATION

For further details on all our distribution switchgear, including performance and IP ratings, separation, paint options and certification levels can be found on our website at:

www.afswitchgear.co.uk



PACKAGE SUBSTATIONS



AF Switchgear provide Packaged Substations manufactured to a very high standard. Our offering consists of a complete MV/LV package which can incorporate MV switchgear as a standalone piece or can be close coupled to the LV Equipment for installation within plant rooms or in a purpose made modular/ containerised solution.

MV incoming options consist of ring main units (RMU's), circuit breakers or switch disconnectors closed coupled to the transformer housings from all the leading manufacturers.

Package Substations can incorporate cast resin or Midel transformers with either copper or aluminium windings from all the main manufactures.

Routine witness testing and full heat-rise testing can be undertaken for all equipment.



LV DISTRIBUTION SWITCHGEAR

AF Switchgear manufacture industry leading switchgear in all configurations and forms of separation in accordance with BS EN 61439-1 and BS EN61439-2.

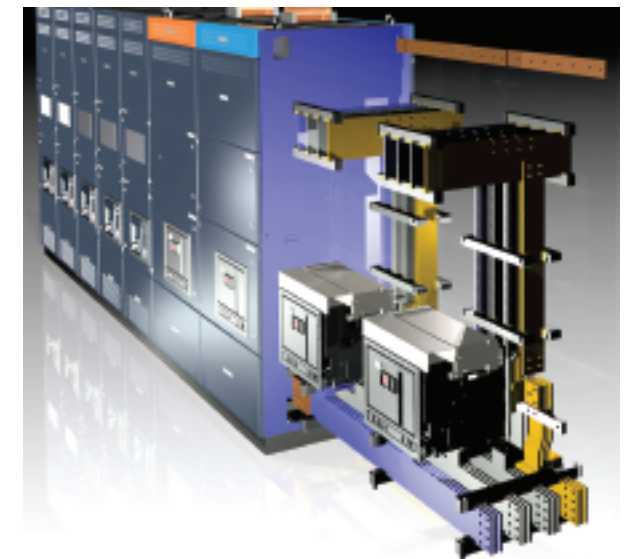
Standard designs are certified up to 6300A 100kA RMS for one second our equipment is also available in ratings up to 15000A. Our range of LV Switchboards includes Main Switchboards, Generator Switchboards, UPS Input/Output Switchboards and Panelboards.

These complement our ranges of Package Sub-Stations, Intelligent PDU's and Distribution Boards. All equipment is custom-built using a minimum thickness 2mm non-ageing high grade CR4 mild steel to a fully welded construction designed to any configuration to suite all site requirements. All equipment is manufactured in-house and tested before delivery to site.

All aspects of the design are detailed in 2D and 3D CAD options.

Components in our standard arrangements are from leading manufacturers such as ABB, Schneider, Socomec, Terasaki and others.

A comprehensive range of metering options are available from leading manufacturers such as Autometers, Carlo Cavazzi, Janitza, Rayleigh, Schneider, Socomec and others.



POWER DISTRIBUTION UNITS (PDU'S)

We manufacture industry leading standard and Advanced PDU's that are designed to specific configurations to meet end user requirements for performance and intelligent power monitoring.

The latest generation of PDU within our product range has been independently tested to 50kA for 1 sec.

PDU Facilities & Maintenance

Our PDU's are designed to be maintained and extended within a 'live' Data Centre Environment with all components situated in a easily accessible configuration.

If plug-in or withdrawable devices are utilised these can be changed with the minimum of interruption.

When dual input and bypass configurations are designed within the PDU, this enables component replacement without the need for disruption in supply.

All Isolation Transformers & Static Transfer Switches are fully removable.

Where required, extensions can be added in the future without the need for shutdowns, allowing all other circuits to remain 'live' keeping disruption to a minimum.

Control Panels and ATS's

Our range of control panels & ATS equipment can incorporate a wide range of intelligent system controls with conventional relay logic, proprietary ATS controllers, PLC systems, SCADA, live mimic and BMS systems.

They are built to the same standard and construction as our switchboards and with a choice of steel, stainless steel and GRP housings.

ACB's, MCCB's, Fuse Switches, MCB or Fuse Boards in draw-out, plug-in and fixed formats from all leading manufacturers can be incorporated in our standard arrangements housed within either compartmented OR wardrobe construction.

Direct on-line, star delta, soft start and variable speed drives can all be incorporated.



MODULAR AND CONTAINERISED EQUIPMENT



If flexibility is the key, then look no further than an AF Switchgear designed modular power solution. Entire plant rooms can be constructed off site featuring combinations of MV substations, LV switchgear panels, PDU's, standby generators and UPS's all built and tested in-house within low maintenance and weatherproof housing.

The assembly work is undertaken in parallel with site preparation, saving time and protecting the sensitive electrical equipment from the rigours of the construction site. Witness tested before despatch, these package solutions can be installed and commissioned in as little as a weekend!



Bus Bar provision is becoming increasingly popular in the evolving Data Centre sector. AF Switchgear offer an entire bus bar range to compliment the company's power distribution systems and will be pleased to advise on the selection of the ideal solution for any application.

Bus bar solutions manufactured to the highest standards, are available for low or medium voltage applications in either indoor or outdoor installations.

AF's Busbar systems are manufactured to a very high standard in two European facilities. The BKS cast resin/ encapsulated IP68 range is manufactured in Switzerland and the Megabarre sandwich construction IP55 bar is manufactured in Italy. All busbar systems supported by AF Switchgear meet all required BS and EU standards.

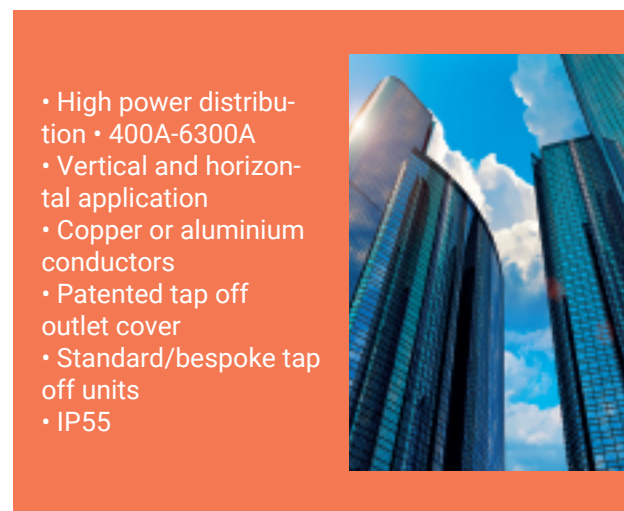
The IP55 sandwich construction range comes in three distinctive categories, low power, medium power and high power. Low power bar starts as little as 25A to high power bar of 6300A. Designed to tailor for nearly any indoor power requirement the IP55 range can be supplied with either aluminium or copper conductors and is commonly used to interconnect LV panels, as a primary power source from a UPS output board to a data hall or to carry power through walls, up risers or along service corridors.

The IP68 super compact resin range is maintenance free, can be used for LV and MV power distribution, can be submersed in water up to 4m in depth, is weather proof and is resistant to most chemicals so suitable for nearly any application. Amperage ratings start from 400A to 5000A for aluminium conductors and from 630A to 6300A if copper conductors are required.

If bus bar is required for your project being an indoor, outdoor, low or medium voltage application AF Switchgear can assist.



- Medium power distribution
- 100A-400A
- Vertical and horizontal application
- Copper or aluminium conductors
- Standard/bespoke tap off units • IP55



- High power distribution • 400A-6300A
- Vertical and horizontal application
- Copper or aluminium conductors
- Patented tap off outlet cover
- Standard/bespoke tap off units
- IP55



One of the main focuses of today's building designers is incorporating energy efficiency, renewable energy and sustainable green design features into all buildings. This has also become a top priority in recent years for facilities managers, contracting officers, and others in building procurement.

With energy costs increasing year-on-year, the ability to monitor and optimise its usage in terms of operational running overheads can require an almost forensic approach that not only enables compliance with Part L2 of the Building Regulations, but also highlights the importance of the efficiency of each individual module of a facility.

From heating to cooling, lighting and lux control, to water and services consumptions, intelligent monitoring is the key to optimisation of the resource.

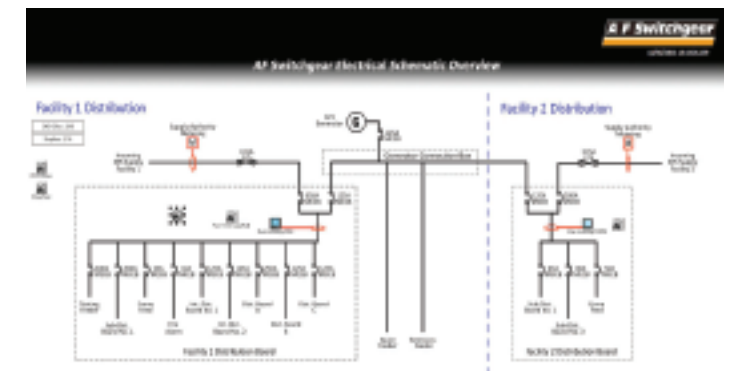
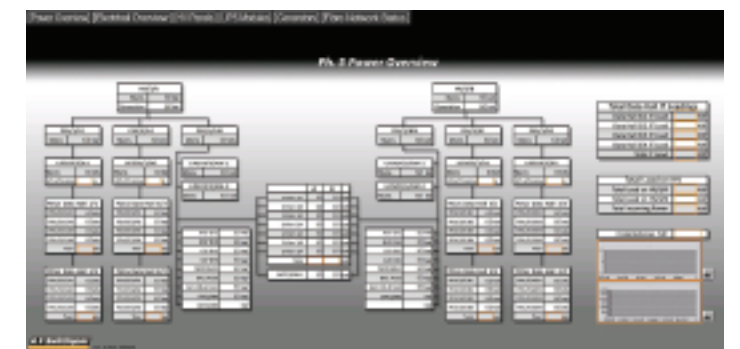
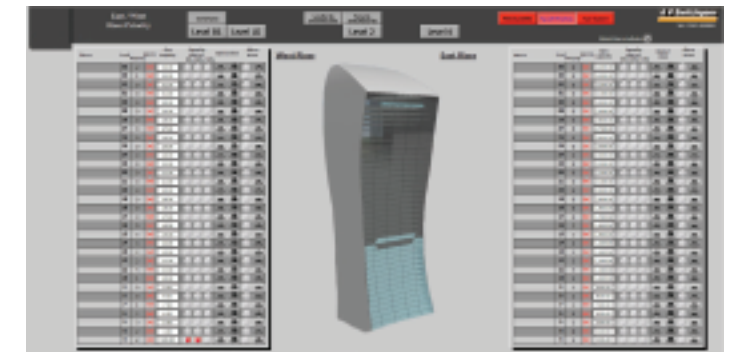
These tasks can be performed on highly resilient systems in various configurations coupled with PLC partnered control

SCADA Expert Vijeo Citect

SCADA Expert Vijeo Citect is the operating and monitoring component of PlantStruxure™ architecture.

With powerful visualization capabilities and operational features, it delivers actionable insight faster, enabling operators to respond quickly to process disturbances and thereby increase their effectiveness.

SCADA Expert Vijeo Citect is now part of the StruxureWare software applications and suites. StruxureWare is the brand name identifying Schneider Electric's various software applications and suites to drive business performance while conserving enterprise resources.



StruxureWare™ Power Management Expert

StruxureWare™ is a DCIM tool to help Datacentre operators to manage and maintain their facilities across multiple sites and is a popular choice for Data Centre owners and consultants alike.

To meet our customer's needs AF Switchgear are pleased to be officially accredited by Schneider Electric as an official StruxureWare™ Systems Integrator and an EcoXpert Critical Power Master. This elite status enables AF personnel to custom design and integrate highly functional systems to the highest standard.

Graphically rich and dynamic the StruxureWare™ system includes elementary starter setups (with scope to grow for future proofing), tools to integrate into existing infrastructure and capabilities to complete entire system upgrades with graphic updates.

SUPPORT SERVICES

On-site Services

We provide a wide range of on-site services, not only during the installation phase but also to maintain, retrofit and upgrade installed equipment.

AF Switchgear will always install and commission equipment to the highest standards supplying dedicated engineering teams for each project. Support includes off-load, positioning and interconnecting of all our equipment and can supply specialist delivery vehicles to suit the application. AF Switchgear engineering staff frequently assist with on-site Integrated Systems Test's (IST) to meet the strictest of programs which we help coordinate from our UK Headquarters in Nottingham to ensure continuity for each project. All site staff are CSCS qualified.

All site engineers will have the latest calibrated test equipment to ensure our products are commissioned correctly every time. We can also offer the following testing services as part of our commissioning and IST services:

- Flash Testing
- G59 Parallel Testing
- Ductor Testing
- Check Sync
- Insulation Testing
- STS Oscilloscope Testing
- Primary Injection
- Thermal Imaging.
- Secondary Injection
- Power Monitoring and Analytics

On-site Training

At AF Switchgear we understand that familiarisation with our products is essential for on-site staff to enable appropriate operation of equipment long after a project is completed. Tailored training sessions can be provided for maintenance and operational staff as part of the installation process, permitting them to undertake routine tasks thereafter with confidence.



SUPPORT SERVICES

Maintenance and Operational Support

AF Switchgear as standard offers a 24hour Technical Support Line. All enquiries will be passed to a highly qualified and skilled power engineer who can help diagnose and resolve a potential issue or system fault.

In addition to the 24hr Telephone Support Line which is open to all customers, AF Switchgear offers maintenance and support contracts to suit every budget. Each individual contract will be tailored to suit the customer need and depending on the contract level taken, emergency support is provided with guaranteed response times typically ranging from 4, 8, 24 hour or next day to site. For a more planned approach in respect to routine maintenance AF Switchgear offer an inspection and maintenance service where a qualified AF representative will undertake a Power Quality Survey on your power distribution equipment and recommend any appropriate action.

A range of surveys are offered – Thermography, Harmonic Distortion, Phase Balancing, Energy Efficiency, Switchboard Validation, Life Expectancy Validation, Component Verification, Earthing Verification and Segregation Verification.

Another valuable service AF Switchgear offer is a retrofit and extension service, even if the original equipment has been provided by a third party. After undertaking a Power Quality Survey we could help extend the working life of your equipment, improve reliability and performance, ensure conformance to current legislation, future proof power demands, add metering packages and monitoring equipment, upgrade device functionality, add energy saving products and surge protection to protect existing equipment.

Whatever your power distribution needs AF Switchgear can assist!

