

Protection & Control Design

Power system protection & control design solutions

Acrastyle has a vast portfolio of LV, HV and EHV protection & control systems in use throughout the world. Its wide experience and in-depth expertise in protection & control design enables it to design the most complex power system schemes as well as providing elegant, simpler schemes for less arduous applications.

The protection & control design process:

- Begins with a detailed understanding of the planned power system configuration
- Understands the power system operating parameters under both normal and fault conditions
- Understands all the mechanical & electrical limitations that may be imposed by the site
- Is carefully controlled with all stages checked and signed off

The process also allows:

- Changes to be carefully logged and documented
- Design version control & overall review before releasing to the customer for approval
- Design freeze for manufacture
- Modifications & change requests post freeze that are carefully reviewed and implemented once approved
- System testing to the scheme drawings to test equipment, manufacture and design

CAD Design & Drafting

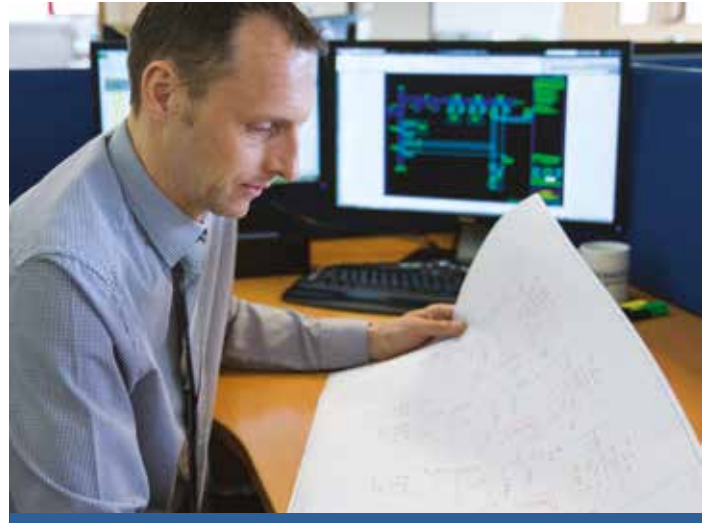
CAD design for power system protection & control solutions

With our extensive CAD resources, Acrastyle can provide a sub-contract CAD design and drafting service for almost any application.

We use the latest AutoCAD software & can provide drawings & designs in all releases of AutoCAD DWG file in addition to DXF, DWF and Adobe PDF files. Drawings can also be provided for compatibility with other CAD packages on request.

We are also able to scan and modify old legacy hand-drawn drawings using modern Raster software such that drawings for older equipment can be easily modified to incorporate any necessary changes.

Our sister design office in Chennai, India has the same capabilities and is also able to produce and modify drawings with Elecdes, ELCAD and Microstation on our behalf. Don't hesitate to contact us if you have such a requirement.



Design & Build

Utilise our design and build capabilities to reduce your overall project time and cost.

Acrastyle fully understands the benefits of having the system design undertaken by the equipment manufacturer as significant time and money can be lost when coordinating such things as technical queries, design changes and requests for information. Our design team are located within the manufacturing facility, thus providing:

- Faster project delivery
- Lower project cost
- Less administration
- Fewer design errors
- Reduced site costs



Engineering Design Services

Interface Engineering

Power system protection & control integration

Acrastyle has several dedicated Interface Engineers who can provide clear diagrams and schedules that enable customers to combine sub-system elements into a completely integrated system.

'Interface Engineering' is the term given to this detailed design work which shows how to connect the switchgear, transformers and relays via the various multi-core control cables and marshalling kiosks. These then connect all of the different parts of the system.

The usual deliverables of Interface Engineering are:

- Cable Block Diagrams which show what type of cable, how many cores, and where these start and finish
- Termination Schedules which show all the terminals at that location and which cores are connected to these
- Core-sheets which show the usage of each core for each multicore cable

In addition, the Interface Engineer provides cable length data, termination gland requirements and checks the core sizes are all correct for the application. This ensures that when the installation and commissioning engineers come to connect the substation system, all the separately designed and supplied elements join up as an integrated whole.

Without good Interface Engineering you don't have a system, you have a collection of separate and isolated components which will not work together properly.

With good Interface Engineering the overall system forms a complete, interconnected and coordinated solution.

Site Surveys & Drawing Audits

Verifying & updating substation scheme drawings

Acrastyle has a team of experienced engineers who conduct detailed site surveys to check the status and veracity of the existing site and scheme drawings. These will be the basis of any new schemes being proposed.

We can scan existing substation drawings whilst on site without the need to remove drawings by using a modern A0 colour drawing scanner. This is particularly desirable when the site drawings are the only copies in existence.

Unfortunately, it is common to find that many of the old drawings are either missing, obsolete, or do not accurately reflect the currently installed condition. This is due to various



modifications which have been made in the past but not accurately reflected in the drawings.

Any new design is dependent on a complete and clear understanding of the existing plant and parameters, so site audits to check the drawings are often an essential first step towards providing a perfect new design.

Where the old drawings are either missing, difficult to read or out of date, Acrastyle can provide a drawing replacement service.

Scanning & Printing

Our protection & control design services are supported by our large format scanning capabilities, both on and off site. Also, we have large format plotting / printing services up to A0 in colour or black & white.

Key Features

- Protection & control design
- Design & build capability
- Interface engineering
- Site surveys
- Drawing audits
- CAD design and drafting
- Latest AutoCAD software
- DWG, DXF, DWF and Adobe PDF file formats
- Scanning and printing facilities

 **ACRASTYLE LIMITED**
Protection & Control for Your Power Systems

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