

POWER QUALITY CAPABILITY STATEMENT

Company overview

For almost 50 years Ampcontrol has designed, manufactured and delivered integrated underground electrical systems that improve safety, maintain efficient mining operations and meet stringent regulatory requirements.

From our humble beginnings to being recognised as an industry leader in electrical solutions, we have consistently ensured our products meet the expectations of our customers in terms of safety, performance, quality, technical excellence, reliability, efficiency and cost effectiveness.

The strength of our innovative solutions lies in our specialist engineers who are committed to discovering, developing and implementing market leading technology.

We are proud that our team has led the way and created innovative solutions such as the world's first 11kV AFC longwall system, Intrinsically Safe LED lighting, the first integrated protection relay for mining and power factor correction for longwall substations.

Certified systems



Our solutions

Ampcontrol specialise in addressing power quality issues for low to medium voltage users thus benefiting businesses by improving energy efficiency.

Ampcontrol's comprehensive MV and LV power quality range offers flexible, efficient and fit-for-purpose solutions for all energy users.

Our solutions help you:

- Improve power factor correction
- Release network capacity
- Reduce energy costs
- Voltage support
- Improve system efficiency
- Achieve Regulatory compliance

Equipment

MV Power Factor Correction (PFC) systems and capacitor banks

Ampcontrol's automatic HV/MV enclosed capacitor systems are customised Power Quality (PQ) solutions designed for use by all energy intensive industries and electricity distribution networks.

Systems provide power factor correction, voltage support, harmonic filtering and optimise network control.

Underground mining PFC systems

Ampcontrol's Underground Mining PFC system and capacitor bank solutions are robust and built to suit underground conditions in mining applications.

The systems improve power factor, deliver voltage support for longwall substations during AFC start up, as well as providing harmonic filtering support to maintain optimal peak operating conditions.

MV Neutral Earthing Resistors (NER)

Ampcontrol's NER units come custom designed and manufactured to application, industry and customer specifications.

NERs protect vital plant equipment by limiting current flow through the neutral of a transformer or generator.

MV/LV PQ components

Ampcontrol's PQ components help customers address issues in power quality from low to high voltage levels ranging from poor power factor, voltage stability, harmonic mitigation and capacity release.

Ampcontrol power quality components include:

- MV/HV capacitors
- Power factor controllers
- Zero voltage switching relays
- Contactors

Ampcontrol also produce a range of low voltage systems and components.

Power Quality Services

Ampcontrol can leverage off its vast engineering skill sets to be able to provide full support when it comes to MV PFC opportunities. Ampcontrol is in a position to be able to provide a full turn-key offering for our customers, beginning with PQ site audits, solution recommendations, manufacturing, installation, commissioning and on-going service and maintenance. We can also offer these solutions individually.

Power quality audits

- PQ site audits to identify PQ inefficiencies or troublesome capacitor banks
- PQ meters are pre-programmed before being dispatched... connect them up and press record!
- Formal PQ report supplied with recommendations

Automation

- Ampcontrol's automation and control systems integrate PQ equipment via plant wide monitoring, control and alarming using the latest in software and technology
- Our engineers can design and implement customised automation and control solutions for existing or new PQ equipment that are fully integrated using industrial communications and software networks that maximise productivity and operational efficiency

Solutions designs

- Size and type of equipment required to solve PQ concerns
- Standard products, custom products, packaged solutions with other site equipment

Installation and commissioning

- Installation, cabling and terminations
- Commissioning and start-up

Service life, repair and replacement

- Annual service contracts
- Service agreements can be put in place to extend warranties

Industries / Applications

Mining (metal, coal and mineral)

Typically located at the end of a grid and characterised by heavy start up loads, mine sites are often plagued by PQ issues, negatively impacting on production and operational costs.

Voltage instability and harmonic distortion can cause nuisance tripping of electronic protective devices, damage to distribution or production equipment.

Application of power factor correction devices compensate for some of the problems associated with dynamic loads that are characteristic of mining networks. Ampcontrol investigates mine system performance, provides problem definition and customised solutions.

Industry (smelting, manufacturing and processing)

Common grid problems such as voltage dips or sag and limited network capacity can be costly to industrial operations through high supply tariffs, lost production and damage to equipment.

Voltage instability and harmonic distortion can cause nuisance tripping of electronic protective devices, damage to distribution or production equipment.

Application of power factor correction devices compensate for some of the problems associated with dynamic loads used in industrial networks. Ampcontrol can identify power quality problems and develop energy efficiency programs and mitigation solutions.

Power utilities

Load growth in electrical networks pushes existing transmission and distribution systems to their upper limits.

PQ solutions can alleviate these pressures by providing reactive power locally, supporting line voltage, reducing losses, increasing current carrying capacity and reducing the impact of harmonics.

Ampcontrol offers expert solutions to improve power quality of high and medium voltage electrical networks and optimise network efficiency and productivity.