

# UNDERGROUND MV POWER FACTOR CORRECTION SYSTEMS



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

Application of power factor correction (PFC) devices compensate for some electrical network problems characteristic of mining operations.

Ampcontrol's mobile MV PFC underground systems are field proven in Australia's mining industry and are designed and manufactured to suit arduous conditions in underground mining applications.

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

Our standard and customised designs feature robust enclosures, flexible component and protection configurations, as well as transportable mounting to move with longwalls and substations when required.

## Applications

- For use in underground mining power distribution systems
- Power factor correction
- Voltage support for machine start up
- Harmonic filtering
- Capacity optimisation

## FEATURES

- Skid or trailer mounted for easy transport with longwalls or substations when required
- Mobile, robust and compact design
- Standard design or custom engineered to suit application requirements
- Fully workshop assembled and tested for fast installation and connection on siteIncreased safety through stage protection
- Energy saving



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## System specifications

Nominal voltage rating	Systems from 1kV to 11kV
Rated power	Application dependent, typically up to 2000 kVAr per stage
Enclosure types	IP65, 316S/S, air-conditioned with mechanical interlocks and door micro switches
Reactor types	Iron-core detuned
Capacitor configurations	Double star and/or single star
Standard compliance	AS4871, AS2067, AS3000
Security and safety	Unbalance, HRC fuses, OC, EF, earth leakage, stage protection and Ampcontrol arc venting
Monitoring, control and communication	Automatic, remote and local

## Application description

Application of power factor correction devices compensate for some of the problems associated with dynamic loads that are characteristic of mining networks.

Voltage instability and harmonic distortion can cause nuisance tripping of electronic protective devices, damage to distribution or production equipment and can also affect Ex certifications of flameproof motors which require strict voltage distortion limitations.

Ampcontrol's MV PFC underground system mitigates these issues to deliver increased system capacity, improved equipment performance, increased service continuity and lower energy costs.

Units are custom engineered to support the scale and scope of each application and are built to be robust and mobile to withstand underground mine environments and integrate with existing equipment.

Ampcontrol's MV PFC underground solutions address these problems with our standard or customised units, delivered on site fully assembled, tested and ready for installation.

