

11kV/3.3kV Longwall Substations

Ampcontrol's Longwall Substations can include up to 10 outlets and are offered in both flameproof and ingress protected (IP66) enclosures, built to customer specifications.

Ampcontrol design and manufacture a range of underground substations up to 7.5MVA and customises each to meet the applications required. Longwall Substations are typically 11kV/3.3kV up to 7.5MVA and have been manufactured in either flameproof or ingress protected (IP66) variations.

11kV connections are typically provided via a flameproof coupler and may incorporate switched or non-switched through supplies. All 11kV equipment is housed in the High Tension (HT) Enclosure of the substation. Integrated into the HT enclosure are the isolation, earthing and protection required for the main transformer. Protection will include meeting all requirements for electrical protection of a substation as detailed in AS4871.2012.

Transformers provided for Longwall Substations are nitrogen filled, dry type transformers (GNAN cooling system) units only. All GNAN transformers are built to meet IEC standards for explosion protection technique Ex p.

3.3kV power distribution from the substation may include up to 10 outlets in either IP66 or flameproof options provided from the Low Tension (LT) Enclosure.

Each LT enclosure is customised to meet specific mine site communication requirements and can include PLC based control systems, HMI interface capabilities and SCADA packages. Customer required functionality including safety rated (SIL) isolation and earthing systems can be incorporated into the Control and HMI systems to ensure safe and reliable operation from behind closed doors.

The 3.3kV power distribution outlets are provided with protection by our integrated protection relays. This ensures the 3.3kV distribution generally meets the electrical protection requirements of AS4871.2012.

The complete substation including HT, transformer and LT enclosures are typically offered on a powered track mounted skid with rated lifting facilities for easy relocation around site.

Each substation upon completion follows through a process of Factory Acceptance Testing, Compatibility Testing (where necessary) and Commissioning to ensure operational status on delivery. Manuals including flameproof dossier and drawings are provided and options are available for ongoing support for each product including lifecycle management.

Longwall Substations are typically provided as part of a complete electrical package for a Longwall System. This allows for incorporation of the complete system into the control design philosophy during the design and manufacturing stages.

Features

- + Supply power - 11kV (options for 6.6kV available)
- + Output power - 3.3kV
- + Typical power ratings – 4.5MVA to 7.5MVA
- + Explosion proof or IP66
- + Compliant to all Australian and state legislative requirements
- + Up to 10 outlets
- + Standard mounting – hydraulic powered track system
- + Additional mechanical protection available
- + All outlets can be the same configuration, making all outlets universal
- + Ampcontrol outlets provided with machine recognition
- + Communication options including fibre optic/ethernet connectivity

