



Figure 1, typical 250kVA wheel based minisub



Figure 2, typical 250kVA skid based minisub



Figure 3, ready for delivery of four skid base minisubs

ACTOM Mobile Miniature Substations

MV SWITCHGEAR
A division of ACTOM (Pty) Ltd

ACTOM

ACTOM Mobile Miniature Substations

ACTOM MV Switchgear used an innovative approach to design and manufacture its new range of mining minisubs by incorporating its quality workmanship and experienced manufacturing processes to produce minisubs rated at 100kVA to 1250kVA for mining applications.

Complete in modular design with a low voltage (LV) compartment, a medium voltage (MV) cable box or ring main unit (RMU) compartment and outdoor distribution transformer, all mounted onto solidly galvanised mild steel base frames with axles and wheels to suit any rail gauge of choice. Alternatively go with skid base type of minisubs manufactured out of solidly galvanised mild steel skid bases, strengthened with 40mm diameter towing holes.

Due to ACTOM MV Switchgear's continued commitments to the ISO 9001 quality standards. Real value was added and makes this, the ACTOM mobile minisub of choice for mining applications. The minisubs have rated powers of between 100kVA up to and including 1250kVA and are powered by either;

- i) Oil cooled, ONAN, distribution transformers complying with SANS 780 or
- ii) Air cooled, ANAN, distribution transformers complying with SANS 60076-11.

A selection is available of copper or aluminium windings for the transformers. The LV panel enclosure complies with SANS 62271-202 and SANS 61439-1

The LV compartment is manufactured from 5mm thick mild steel and fitted with 3mm thick arc fault blow out vents for relieving any bursting pressure which can build up inside the LV enclosure from possible arc faults occurring.

The LV compartment has an IP rating of IP54 with doors closed and IP23 with doors open. The LV bushings of the transformers are behind the 3mm mild steel white escutcheon covers and further protected, by being completely shrouded, with polycarbonate material (Fig. 6). This provides zero touch potential between live parts and accessible parts inside the LV panel when the LV doors are opened.

Various LV panel models are available for different outgoing circuit breaker arrangements for 400V or 550V low voltage systems.

The MV compartment complies with SANS 62271-202 and is manufactured from 5mm mild steel and fitted with a MV RMU. The MV compartment is IP 54 rated with the MV doors closed and an IP 0X rating with doors open for access to the RMU. Blow out vents are fitted to reduce pressure build up from possible arc faults occurring inside the MV compartment. The MV cable box is IP 65 rated for MV cable terminations.

The mining minisub can be fitted with a canopy to prevent rock falls from damaging the minisub underground.

Lifting lugs ensure easy manoeuvrability and positioning of the mobile unit down mine shafts.



Figure 4, typical 550V LV panel, with IP 23 rating

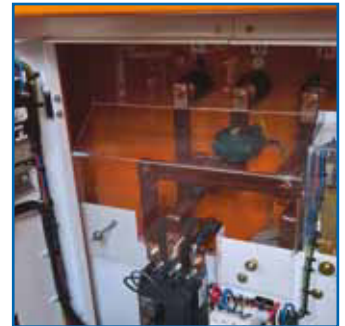


Figure 5, shrouded busbars for zero touch potential



Figure 6, 315kVA dual ratio, 550/400v with MICOM P115 relay



Figure 7, strengthened doors with 8mm rods & barker nelson handles



Figure 8, typical LV panel with IP 54 rating

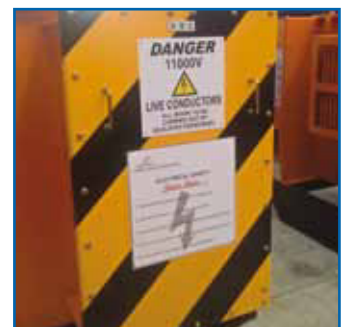


Figure 9, Anglo Gold Specification IP 65