

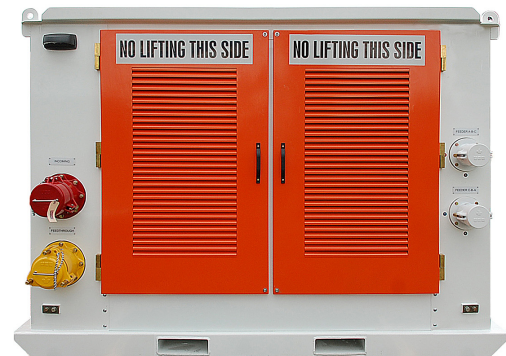
Substation: Pit Dewatering

UEE Pit Dewatering Substation

The UEE Pit Dewatering Substation brings reliable, configurable and efficient power conversion and distribution to remote industrial settings in an extremely durable and mobile package that handles primary switching, step-down voltage conversion and secondary distribution.

Load specific modular feeders handle secondary distribution and can easily be swapped out to accommodate changing distribution needs.

Welded to HSS steel, the body is manufactured from 11 ga steel and is coated with a durable powder-coat finish. The enclosure provides NEMA 3R protection for internal components.



Primary Supply Section

As the incoming primary supply is designed for feed-through operation, the Pit Dewatering Substation connects as a single drop on a daisy-chained network of high-voltage equipment.

Incoming and outgoing feeds are connected through UEE quick-connect flanges that utilize trailing cable pilot monitoring for safety. Monitoring and supply switching are provided by upstream equipment. Termination covers are provided to validate pilot circuit for non-feed-through operation.

The trailing cable pilot circuit passes through an emergency kill switch that in turn is connected to all high-voltage doors, ensuring that the supply voltage is disconnected whenever the substation is being maintained.

The current limiting fuses in the primary supply section are rated for and protect the specific transformer installed in the substation. Step-down voltage conversion is handled by a dry-type mine duty transformer equipped with a neutral grounding resistor (NGR).

Secondary Distribution

The secondary distribution compartment is physically isolated from the rest of the substation and accommodates up to six plug-in modular feeders which connect to the low-voltage bus. Plug-in feeders provide a high degree of operational safety and flexibility, yet require limited maintenance down-time.

Each interchangeable modular feeder has its own control and protection systems, and can be configured for a wide range of components including breaker feeders and motor and pump controllers. Refer to the Typical Specification tables for feeder options.



Protection, Control and Indication

High-voltage fuses mounted in the primary supply section provide primary overcurrent protection, while a secondary circuit breaker provides secondary fault protection.

Substation ground fault currents are limited by an NGR connected to the transformer secondary star point. A ground fault relay in conjunction with the NGR provides ground fault and resistor open circuit fail-safe protection by de-energizing the undervoltage coil equipped in the secondary breaker. Additionally, ground fault relay loss of power protection is provided.

Secondary voltage and current measurement (3-phase) is provided by a voltmeter, ammeter and selector switch. Secondary breaker position (trip) and secondary power availability is provided by indicator lights.

Standards

All UEE Pit Dewatering Substations are designed to CSA C22.2 No. 31, C22.1, CSA M421, CSA C9 and CSA C802.2.

Options

- Primary load break switch.
- Secondary power factor correction capacitors.
- Transformer temperature monitor.
- Remote status indication contacts.
- PLC connectivity.

Typical Specifications

Primary Voltage kV	Secondary Voltage V	Rating kVA	Secondary Bus	Secondary Bus Short Time kA
up to 15	480, 600	500, 750, 1000 or 1500	Tinned copper	25

Transformer Insulation	Transformer Temperature Rise	Transformer Windings	Transformer Primary Taps
220°C Class H, vacuum impregnated epoxy	150°C (above 40°C ambient)	Copper	4 x 2.5% (2 FCAN and 2 FCBN)

NGR Rating Amperes	NGR Monitoring
5 continuous (maximum)	Trip on NGR fault, trip on ground current

Modular Feeder Rating Amperes	Modular Feeder Trip	Modular Feeder Protection	Modular Feeder Motor Start hp	Modular Feeder Breaker Amperes
up to 400	Shunt or undervoltage	Ground fault/ground check	150, 250 or custom	225, 400 or custom

For additional technical details or specifications, call 1-250-497-5254 or visit www.uee.com.