DC POWER FOR CONTAINERISED ELECTRICAL APPLICATIONS

Nowadays containerised solutions are frequently used in the electrical sector due to their clear cost advantages with regard to planning, erection and installation. There are a variety of electric components that can be installed in a container:

- Gas-Insulated HV switchgear.
- MV switchgear, up to 36kV.
- SCADA, protection, control and metering.
- Power distribution transformers.
- PFC and harmonic filters.
- LV switchgear, up to 1000V.
- Motor control centres, motor starters and variable frequency drives.
- Control System and I/O panels.
- **UPS and DC power supplies.**
- Fire detections and extinguishing.
- HVAC (heating, ventilation, air conditioning).
- Internal and external lighting.
- Solar Photovoltaic Substations

11kV Switchgear

Motor control centres LV

Containerised electrical solutions are usually installed in rugged and harsh environments where qualified staff access is restricted due to the location. DC backup is essential for:

1. Protection Relays (feeder, transformer, motor , busbar differential, Synchronism, generation …)
2. Communications Systems.
3. Emergency Lighting.
4. Fire detection and extinguish systems.
5. Measurement and Monitoring units.
6. Shut-off valves
7. Circuit breakers operating motors.
8. Arc protection device.

Helios Power Solutions designed SOL SERIES is aimed to meet the high specifications required for providing a reliable and efficient source of DC power.

THE SOL SERIES

Benefits and Advantages of using The Helios SOL SERIES in containerised electrical applications:

- Convection Cooled or compact fan cooled.
- Compact size , Hot-swappable power modules.
- From 12U to 47U cabinets and Wall Mount Option available up to 18U.
- Automatic battery condition test, remote communications and alarm contacts to improve the entire management process for the end customer.
- DC UPS batteries available in stock.

Battery Charging System with Battery Backup

DC UPS 38U 5.5kW 110VDC OUTPUT / 400 VAC INPUT FOR 11kV SWITCHGEAR PROTECTION FITTED IN CONTAINER

End Customer's Sector: Agriculture and Forestry.

Application: 11 kW SWITCHGEAR MV installed in container with Relay SEL incorporated .

Customer Requirement: 19" rack solution to house batteries and charging equipment as well as DC distribution panel. The cabinet will have to be suitably seismic rated. The station battery and charger system will be a single battery system comprising one 200% rated capacity battery bank, plus one 200% rated battery charger, and accessories.

The DC solution shall provide the following alarm output contacts for the principal's use:

- Power supply failure (to the monitoring system).
- System Voltage/current abnormal.
- Battery condition abnormal (self-diagnostic facility).
- Battery temperature abnormal.

Distribution for powering 8 panel 11kV switchgear DC loads and SEL re-lays.

Solution: 38U 1889mm H x 600mm W x 800mm D Sol Series Battery Charging System with 4 hours backup battery housed in the same cabinet.

Features:

- Five Hot swappable 1.1 kW rectifiers modules.
- Fully programable controller with TCP/IP MODBUS+ ethernet/ SNMP.
- 9 x 12V 100Ah Batteries.
- I/0 Peripherals.
- Distribution rack.