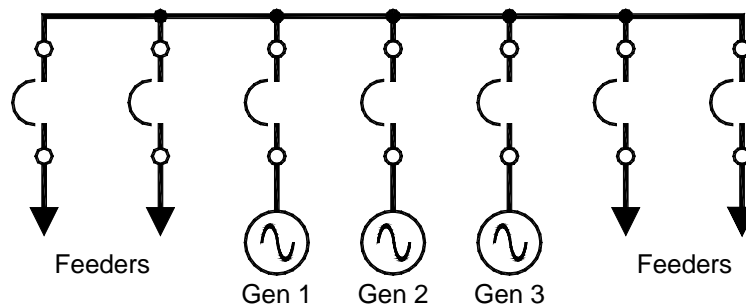


Featured Product:

## Automatic Paralleling Switchgear



ADVANCED POWER  
TECHNOLOGIES



- Low or medium voltage
- Low voltage switchgear available as UL 891 listed
- Integrated microprocessor control
- Completely automatic operation
  - Automatic paralleling
  - Remote Start/Stop interface
  - kW and kVAR load sharing
  - Load shed control
- Optional SCADA-ready Modbus communications port for monitoring and control
- Standard silver plated copper bus
- Inhibits closing of multiple generators to a dead bus simultaneously
- First Up – First On logic connects first available generator (which builds up voltage and frequency) to a dead bus

Switchboard Specifications

Voltage:	208 – 600V, 3 phase, 3 or 4 wire (low voltage) 2400 – 15kV, 3 phase, 3 wire (medium voltage)
Current:	Up to 4000A (low voltage) Up to 3000A (medium voltage)
Enclosure:	NEMA 1 for indoor use NEMA 3R for outdoor use (optional)
Dimensions:	Standard low voltage – 28"W x 80"H x 46" or 54" or 62"D Std. medium voltage – 36"W x 95"H x 92"D
Metering accuracy:	0.3% - voltage and current 0.6% - power and energy
Metering options:	PS-P – power sensing (A, kW, PF, kVAR, etc.) PS-E – energy sensing (kW-hrs., kVAR-hrs.)
Generator protection:	Overcurrent (50/51), under/overvoltage, under/overfrequency, reverse power, loss of excitation, current balance
Options:	SCADA-ready Modbus communications port

Overview of Operation

Upon receipt of an automatic start signal initiated locally by the operator or remotely by customer's SCADA RTU (via closure of a dry contact), the switchgear shall issue a start signal to the generator set. At that time, generator set's speed shall be controlled by the switchgear. Generator voltage shall be determined by the voltage adjust potentiometer. If the bus is dead and other conditions are appropriate, then the first generator to build up voltage and frequency shall close it's synchronizing circuit breaker, energizing the bus. If the load bus is already energized, then the genset shall be automatically synchronized with the load bus under the supervision of the dedicated synchronizing check relay. When all the synchronizing conditions are met the synchronizing circuit breaker shall close. At that time, the generator set shall operate as an isochronous load sharing machine. Real load (kW) and reactive load (kVAR) shall be shared proportionally with other gensets connected to the load bus.

Upon receipt of an automatic stop signal initiated locally by the operator or remotely by customer SCADA or DCS system (via closure of a dry contact) the switchgear shall automatically open the circuit breaker and shutdown the genset after a cooldown period.

The switchgear shall also include provisions for manual operation.

Load Shed control equipment

In case of bus overload multiple stage load shed capability shall be provided. Non critical loads feeder circuit breakers shall be tripped and/or form "C" dry type contacts will be provided for each stage of load shedding to disconnect non critical loads downstream from the switchgear.

Load shed ON – OFF/RESET switch shall be provided as part of the system.

Time delays for each stage of load shed shall be adjustable through the operator interface unit mounted on the door.