Featured Product:

Automatic Paralleling Control Panel

ADVANCED POWER TECHNOLOGIES

- Automatic paralleling of multiple generators
- Complete manual paralleling facilities: synch check relay and synch lights
- Complete generator protection
- Complete generator and bus metering
- Remote Start/Stop interface
- Optional multiple generators Master Control Panel
- Optional operation in parallel with Utility
- Direct sensing up to 690 V (no switchgear PTs required)
- Optional SCADA-ready Modbus communications port for monitoring and control
- 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
- Optional load shed facilities

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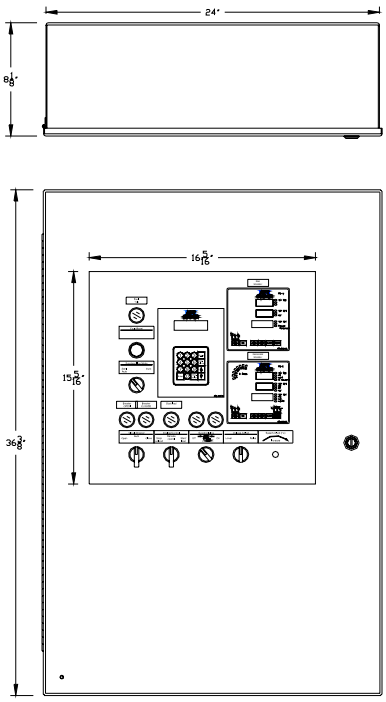


Wall Mount

Specifications:

Voltage:	208 – 690V, direct 3 phase sensing Above 690V, sensing from switchgear PTs
Current:	0-5 Amp sensing from generator or switchgear CTs
Enclosure options:	NEMA 1 for indoor use, wall mount or floor standing NEMA 3R for outdoor use, wall mount or floor standing Stainless steel, wall mount or floor standing Switchgear door mountable
Dimensions:	Standard Wall Mount Size – 24”W x 37”H x 9”D
Metering accuracy:	0.3% - voltage and current 0.6% - power and energy
Generator Metering:	True RMS, 3 phase (A, V, Hz, kW, PF, kVAR, kWh, kVARh)
Bus Metering:	True RMS, 3 phase (V, Hz)
Generator protection:	Three (3) phase under/overvoltage, under/overfrequency, reverse power (two setpoints), reverse VARs (two setpoints), current balance (two setpoints). Overcurrent protection should be provided by generator circuit breaker or in the switchgear
Optional bus protection:	Three (3) phase under/overvoltage and under/overfrequency
Options:	SCADA-ready Modbus serial or Ethernet communications port

Minimum system requirements:

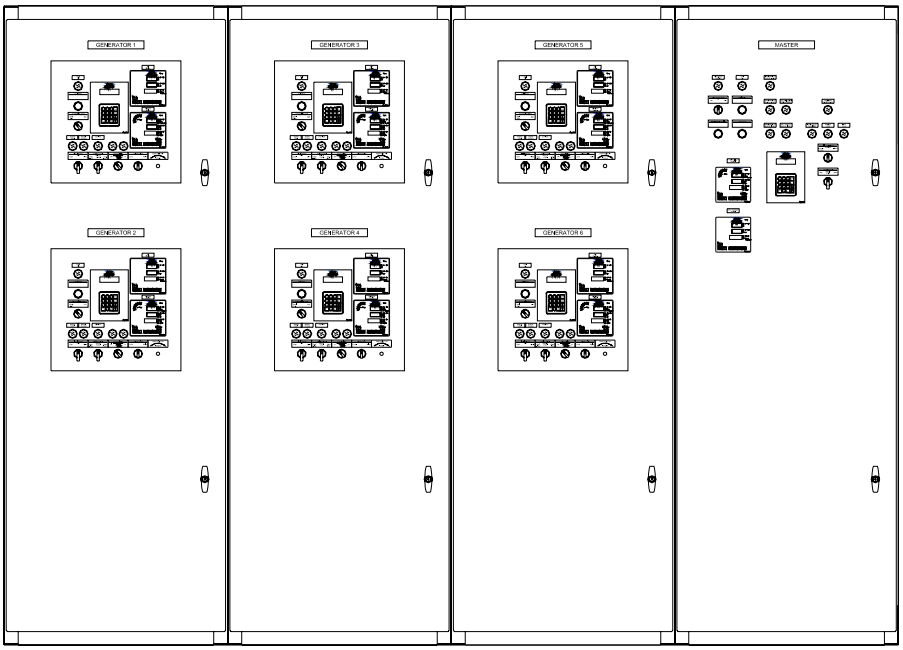
- Engine-Generator set with engine control module (Caterpillar ADEM, EMCP or similar) and generator voltage regulator, capable of voltage droop operation.
- Electrically operated generator circuit breaker with stored energy mechanism. Circuit breaker control power source.
- Generator CTs for generator metering and protection functions.
- Generator and bus PTs for systems above 690 Volts.

Overview of Operation:

Upon receipt of an automatic start signal initiated locally by the operator or remotely by customer's SCADA or DCS (via closure of a dry contact or optional Modbus interface), the control panel shall issue a start signal to the generator set. If the bus is dead and other conditions are appropriate, then the first generator to build up voltage and frequency shall close it's 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 generator circuit breaker shall close.

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

Synchronizing lights, synchronizing check relay, circuit breaker control switch and speed adjust potentiometer are available for Manual-Permissive synchronizing.



Six (6) generators Automatic Paralleling Control Panel line-up with Master Control Section.