



## 24 VOLT GENERATOR SET START MODULE

### INCREASE GENERATOR SET START RELIABILITY

Generator set start module provides up to 1725 cold cranking amps @ 24 VDC to assist and backup the generator set starting batteries for improved system reliability. Very often the cause for standby generator sets failing to start is due to weak or dead engine cranking batteries. By providing redundant starting power directly from the UPS output, the engine starter is assured a healthy and continuous power source that does not require replacement and is temperature tolerant. For critical power customers concerned about battery maintenance or challenging battery environments, the generator set start module provides a reliable backup for genset starting batteries.

### CRITICAL CONTINUOUS POWER SYSTEM

Caterpillar UPS systems and generator sets are designed for integration into a complete continuous power system. The generator set start module option complements the performance of the continuous power systems, to further assure continuous uninterrupted power to critical loads, no matter the type or duration of power disturbance.

#### FEATURES

- Diode coupling allows battery paralleling/best source selection
- Auto resetting thermal protection
- AC disconnect
- Wall or Floor Mounting
- Outdoor rated enclosure
- Rated for 10 crank cycles
- Remote status contact

#### ADDITIONAL CONSIDERATIONS

- Upstream AC overcurrent protection/ disconnecting means required.

**SPECIFICATIONS**

Input Voltage ..... 380/400/415/480 VAC, 3 phase, 50/60 Hz  
Input Current (max. during cranking)..... 32A  
Nominal Output Voltage ..... 24 VDC  
Nominal Output Current ..... 1000 Amps  
Cold Cranking Amps..... 1725 Amps (per SAE specifications)  
Distance from Engine Starter ..... <25 feet (7.6 meters)  
\* (See below)  
Distance from UPS ..... <500 feet (152 meters)  
\*\* (See below)  
Operating Temperature ..... -4° F to 122° F (-20° C to 50° C)  
Storage Temperature ..... -13° F to 158° F (-25° C to 70° C)

Humidity ..... <95% non-condensing  
Heat Dissipation (nominal) ..... 1,025 BTU  
Enclosure Rating ..... IP43/UL1778 – Rain proof  
Start Attempts ..... Rated for 10 cycles of 10 seconds each  
Status Contact Rating ..... 30 VDC, 5A or 230 VAC, 5A  
Dimensions – Floor Mount (w × h × d)..... 34" × 42" × 15"  
866.3 mm × 1068.3 mm × 384.4 mm  
Dimensions – Wall Mount (w × h × d)..... 34" × 26" × 15"  
866.3 mm × 663.6 mm × 384.4 mm  
Weight ..... 335 lb (152 kg)

\*Size of DC cables determines maximum distance from engine starter(s). Consult A & I manual for recommended cable size & distance.  
\*\*AC cables should be sized to limit line losses to ≤3% of nominal.

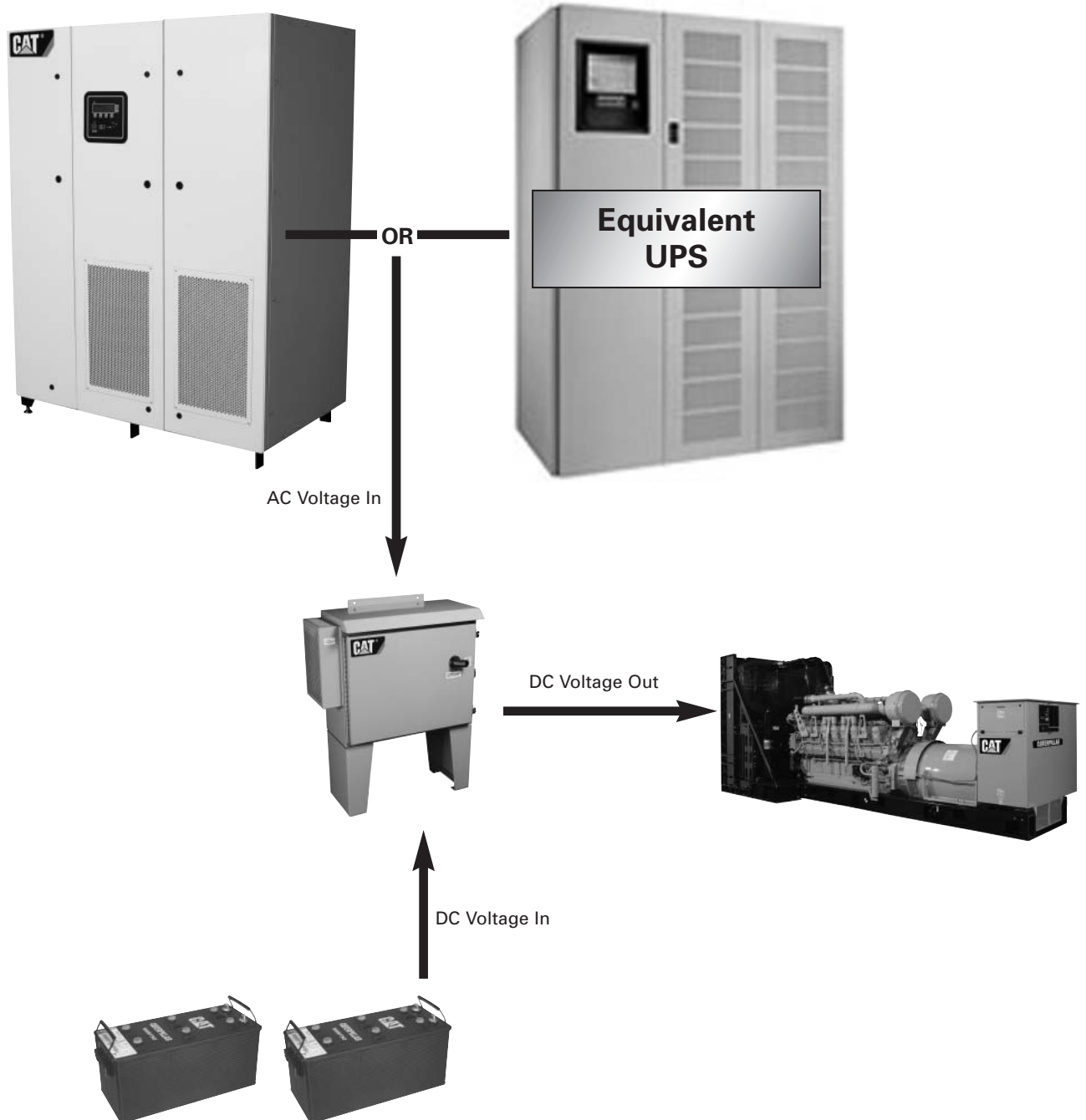
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## HOW IT WORKS

AC power from the UPS output is supplied to the generator set start module, which converts the AC power to DC power. The generator set cranking batteries are connected in parallel with the DC output of the generator set start module separated by an in-line diode to provide isolation

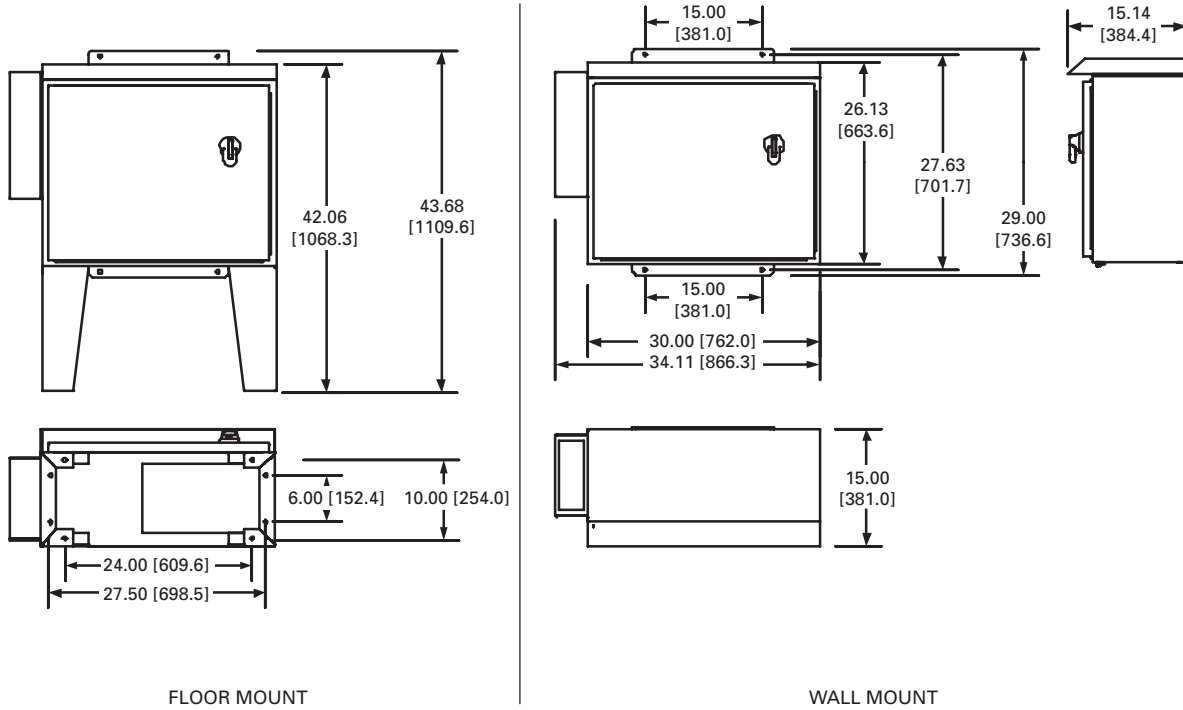
between the two DC sources. The engine starter is wired to the DC output of the generator set start module and can be supplied by either the starting batteries or generator set start module, insuring that the starter motor always has a strong and reliable DC source for engine starting.



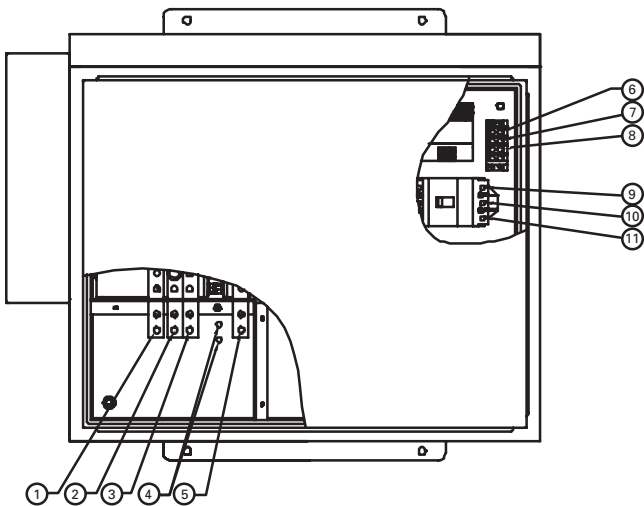
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## OUTLINE DRAWING — GENERATOR SET START MODULE



## ELECTRICAL CONNECTIONS — GENERATOR SET START MODULE



Description	Reference
Battery Input Negative (B-)	1
Starter Motor Negative (SM-)	2
Starter Motor Positive (SM+)	3
Ground (⊥)	4
Battery Input Positive (B+)	5
Status Contact - Normally Open (N.O.)	6
Status Contact - Common (C)	7
Status Contact - Normally Closed (N.C.)	8
AC Input - Phase A	9
AC Input - Phase B	10
AC Input - Phase C	11

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