C7.1 - 200kw
Submittal-00

Date:	5/14/2026
Project:	Midwest Engines and Generators
Contractor/Installer:	
End User:	Midwest Engines and Generators
Address:	Midwest Engines and Generators TBD
Job ID:	
Submittal ID:	TES-001268
Notes	Estimated DRY Weight Includes: Gen – Enc - Tank = 8,494 lbs.
Prepared By:	
Project Manager:	
Prepared For: Salesman	

Table of Contents

BILL of MATERIAL

Midwest Engines and Generators
C13GC - 400kw

Qty	Description
1	EPA STATIONARY EMERGENCY
1	60HZ 480 VOLT (WYE)
1	STANDBY POWER
1	60 Hz, 200 kW
1	D200GC
1	UL 2200 LISTED PACKAGE GEN SET
1	IBC SEISMIC CERT OF COMPLIANCE
1	ENGLISH INSTRUCTION LANGUAGE
1	ADEM A4 GOVERNOR
1	GENERAL EPG
1	PUBLIC OR CIVIL SERVICES
1	EMERGENCY STANDBY POWER
1	PERMANENT MAGNET GENERATOR
1	ALT SPACE HEATER
1	130C TEMP RISE OVER 40C AMB
1	ALT M2294L4 KT
1	FULL POWER
1	GEN MTG & DUCT PLATE 4

1	INTEGRAL TANK BASE, 24HR, 400
1	5 GALLON SPILL CONTAINMENT
1	AUDIO & FUEL ALARM (90% LEVEL)
1	VENT PIPE-STD
1	EMERGENCY FUEL VENT PIPE UL-4"
1	SA LEVEL 2 ENCLOSURE WHITE B3
1	ENCLOSURE DC LIGHTS
1	GCCP1.2 CONTROL PANEL
1	NFPA BUNDLE
1	GEN RUNNING & FAULT RELAY
1	PANEL MOUNTED AUDIBLE ALARM
1	20A GFCI (CONTROLS SIDE)
1	EXTERNAL EMERGENCY STOP
1	WET BATTERY
1	BATTERY CHARGER 10 AMP
1	JACKET WATER HEATER
1	CURRENT TRANSFORMER 400:5
1	COOLANT RESERVIOR
1	LOW COOLANT LEVEL SHUTDOWN 1
1	400A LSI 100% RATED BREAKER
1	NO 2ND CIRCUIT BREAKER
1	NO SUSE DECALS & FILMS
1	NEUTRAL BAR 400A
1	STANDARD RADIATOR
1	REMOTE E-STOP BUTTON
1	PRODUCT LINK 4G LTE TELEMATICS
1	AMERICAS BAND
1	REMOTE ANNUNCIATOR
1	ACCEPT - REVIEW LINK IN DESC
1	STD TEST - PKG GEN SET 0.8 PF
1	PGS TEST REPORT @ 0.8 PF

Thompson Energy Solutions

Submittal Approval Page

To approve the **Midwest Engines and Generators 200kw Submittal-00**

Please check the box, add signature, and the date.

[X] APPROVED AS SUBMITTED [ ] APPROVED WITH CHANGES NOTED Kyle Naomi Signature 5/18/2026 Date	ENGINEER'S NOTES AND COMMENTS

Cat® D200 GC
Diesel Generator Sets

Standby : 60 Hz

Image shown might not reflect actual configuration

Engine Model	Cat® C7.1 In-line 6, 4-cycle Diesel
Bore x Stroke	105 mm x 135 mm (4.1 in x 5.3 in)
Displacement	7.01 L (428 in³)
Compression Ratio	16.7:1
Aspiration	Turbocharged Air-to-Air-Aftercooled
Fuel Injection System	Electronic, Common Rail
Governor	Electronic ADEM™ A4

Model	Standby	Emission Strategy
D200 GC	250 kVA, 200 ekW	EPA TIER III

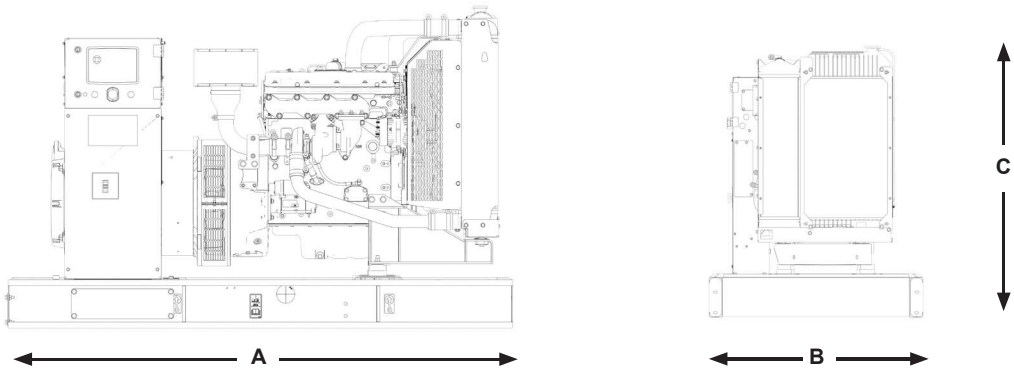
PACKAGE PERFORMANCE

Performance	Standby
Frequency	60 Hz
Genset Power Rating	250 kVA
Genset power rating with fan, 3p@ 0.8 power factor	200 eKW
Performance Number	P4364A
Fuel Consumption	
100% load with fan, L/hr (gal/hr)	56.4 (14.9)
75% load with fan, L/hr (gal/hr)	45.8 (12.1)
50% load with fan, L/hr (gal/hr)	32.6 (8.6)
25% load with fan, L/hr (gal/hr)	14.3 (3.7)
Cooling System[1]	
Radiator air flow restriction (system), kPa (in. water)	0.12 (0.48)
Engine coolant capacity, L (gal)	9.5 (2.5)
Radiator coolant capacity, L (gal)	11.5 (3.0)
Inlet Air	
Combustion air inlet flow rate, m³/min (CFM)	15.8 (558)
Max. allowable combustion air inlet temp, °C (°F)	51 (124)
Exhaust System	
Exhaust stack gas temperature, °C (°F)	533 (991)
Exhaust gas flow rate, m³/min (CFM)	38.3 (1353)
Exhaust system back pressure (maximum allowable), kPa (in. water)	15.0 (60.2)
Heat Rejection	
Heat rejection to jacket water, kW (BTU/min)	91.8 (5221)
Heat rejection to exhaust (total), kW (BTU/min)	183.0 (10407)
Heat rejection to aftercooler, kW (BTU/min)	45.0 (2559)
Heat rejection to atmosphere from engine, kW (BTU/min)	35.3 (2019)

D200 GC Diesel Generator Sets
Electric Power

Emissions (Nominal)[2]	Standby		
NOx + HC, g/kW-hr	3.73		
CO, g/kW-hr	1.31		
PM, g/kW-hr	0.18		
Alternator[3]			
Voltages	480V	208V	600V
Motor starting capability @ 30% Voltage Dip, skVA	361	333	780
Current, Amps	301	694	241
Frame Size	M2294L4	M2736L4	M2736L4
Excitation	SE	SE	AREP
Temperature Rise, °C	130	130	105

WEIGHTS & DIMENSIONS



Note: General configuration not to be used for installation. See general dimension drawings for detail.

Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
2634 (103.7)	1300 (51.2)	1492 (58.7)	1777 (3917)

APPLICABLE CODES AND STANDARDS:

CSA C22.2 No 100-04, UL142, UL489, UL869, cUL/UL2200, NFPA 37,NFPA 70,NFPA 99,NFPA 110, IBC, IEC60034-1, ISO 3046, ISO 8528,NEMA MG 1-33.
Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

DEFINITIONS AND CONDITIONS

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

[3] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

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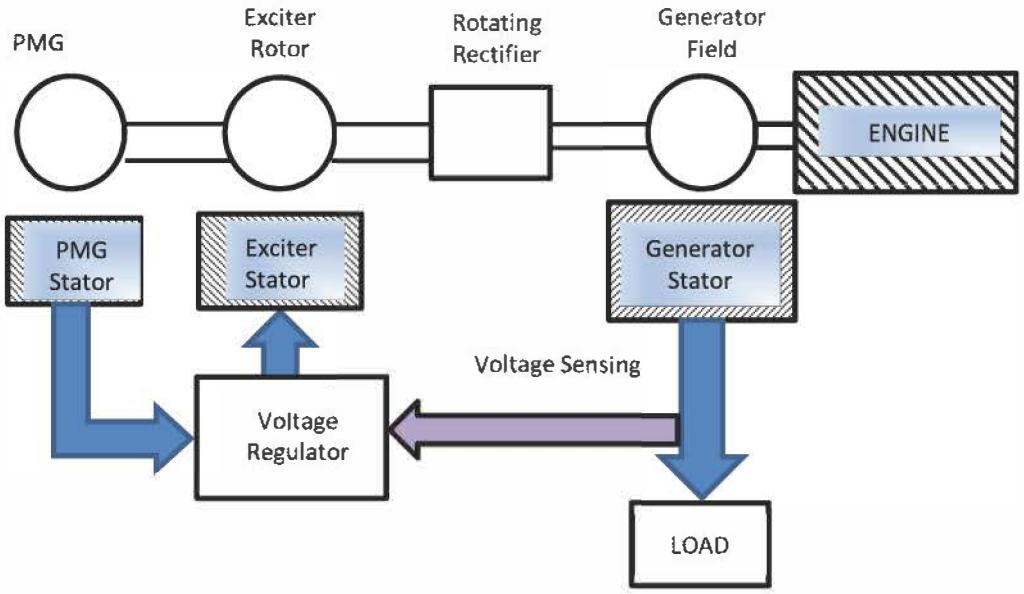
Permanent Magnet Excitation

Block Diagram of Diesel Generator set using Permanent Magnet Generator (PMG) excitation system



In Diesel generator sets employing PMG excitation system a small permanent magnet generator (PMG) is attached to the same shaft as the main generator at the non-drive end. The PMG stator produces clean power source for the voltage regulator.

The PMG excitation system can be retrofittable on most alternators. It has the following benefits over a self-excitation system.

1. Provides reliable, isolated power which is independent of the generator output
2. Ability to provide sustained short circuit current (up to 3 times the rated current) during fault conditions and allows breaker discrimination.
3. Provides clean and uninterrupted power to the voltage regulator even when the diesel generator set is supplying non-linear or harmonic loads.
4. Can provide reduced transient voltage dip on motor starting compared to a self-excited diesel generator set.

The PMG excitation system is offered as an option on Caterpillar C3.3 to C18 gensets as shown in the table below. The use of PMG excitation system may require an upgrade to the voltage regulator and alternator.

Alternator Frame	Engine Model
LC Frame	C3.3 – C18
A Frame	C9 – C18

CEPR0008-00

ADEM™ A4 Engine Controller

The ADEM™ A4 is the main Electronic Control Module (ECM) used on select diesel engines. The ADEM A4 provides a higher degree of control over a large number of combustion variables. The ADEM A4 is designed to control/interface Electronic Unit Injector (EUI) equipped engines. The ADEM A4 engine system is composed of the ADEM A4 ECM, control software, sensors, actuators, fuel injectors, and interface to the generator system. The prime benefit of an ADEM A4 engine system is to better control and maintain the particulate emissions, both steady state and transient, while improving engine performance.

Features

Reliable, Durable

All ADEM A4 controllers are designed to survive the harshest environments.

- Environmentally sealed, die-cast aluminum housing solates and protects electronic components from moisture and dirt contamination
- Rigorous vibration testing ensures product reliability and durability
- Accuracy maintained from –40°C to 85°C
- Electrical noise immunity to 100 volts / meter
- Internal circuits are designed to withstand shorts to + battery and – battery

Simple Servicing

Each ADEM A4 system works in combination with the Cat® ET service tool software to keep the engine operating at peak performance.

- Displays measured parameters
- Retrieves active and logged event code documenting abnormal system operation
- Performs calibrations and diagnostic tests
- Supports flash programming of new software into the ADEM A4 ECM

Self Diagnostics

Each ADEM A4 ECM has a full compliment of diagnostics. The ECM can detect faults in the electrical system and report those faults to the service technician for quick repair.

- Self-diagnostic capability pinpoints operational prob-lems in need of attention.

Advanced Features

- Enhanced performance from fuel injection timing and limiting
- Adjustable monitoring of vital engine parameters
- Programmable speed acceleration ramp rate
- Data link interfaces

Description

The ECM is housed in an environmentally sealed cast-ing. All wiring connections to the ECM are made using two sealed connectors: a single seventy-pin connector and a single one hundred twenty-pin connector.

Engine Speed Governing

Desired engine speed is calculated by the ECM and held within ±0.2 Hz for isochronous and droop mode. The ECM accounts for droop that is requested. The proper amount of fuel is sent to the injectors due to these calculations. The ECM also employs cooldown/shutdown strategies, acceleration delays on startup, acceleration ramp times and speed reference.

Fuel Limiting

Warm and cold fuel-air ratio control limits are con-trolled by the ECM. Electronic monitoring system derates, torque limit, and cranking limit, programmable torque scaling, and cold cylinder cutout mode are standard features.

Fuel Injection Timing

Master timing for injection is controlled by the ECM control. Temperature dependencies are accounted for in the fuel injection calculations.

Electronic Monitoring

Electronic monitoring of vital engine parameters can be programmed. Warning, derate, and shutdown event conditions may be customized by the user.

Information Management

The ECM stores information to assist with electronic troubleshooting. Active and logged diagnostic codes, active events, logged events, fuel consumption, engine hours, and instantaneous totals aid service technicians when diagnosing electronic faults and scheduling preventive maintenance.

Calibrations

Engine performance is optimized through injection timing. Auto/manual sensor calibrations are standard features.

On-Board System Tests

System tests are available to assist in electronic trou-bleshooting. These tests include: injector activation, injector cutout, and override of control outputs.

Data Link Interfaces

The ADEM A4 communicates with the EMCP via a dedicated communication network.

Electronic Sensing

The following sensing is available on the ADEM A4: oil pressure, fuel pressure, fuel temperature, atmospheric pressure, air inlet temperature, turbo outlet pressure, engine coolant temperature, engine speed, throttle, position, exhaust temperature, oil filter pressure differential, fuel filter pressure differential, air filter pressure differential and crankcase pressure.

Engine Controller

SPECIFICATIONS

Impervious to:

Salt spray, fuel, oil and oil additives, coolant, spray cleaners, chlorinated solvents, hydrogen sulfide and methane gas, and dust.

Input and output protection

All inputs and outputs are protected against short circuits to +battery and –battery

Input voltage range (24 VDC nominal)

18 to 32 VDC

Mounting

Engine mounted

Reverse polarity protected

Shock, withstands 20g

Temperature range

Operating: –40°C to 85°C (–40°F to 185°F)
Storage: –50°C to 120°C (–58°F to 248°F)

Vibration

Withstands 8.0g @ 24 to 2 kHz

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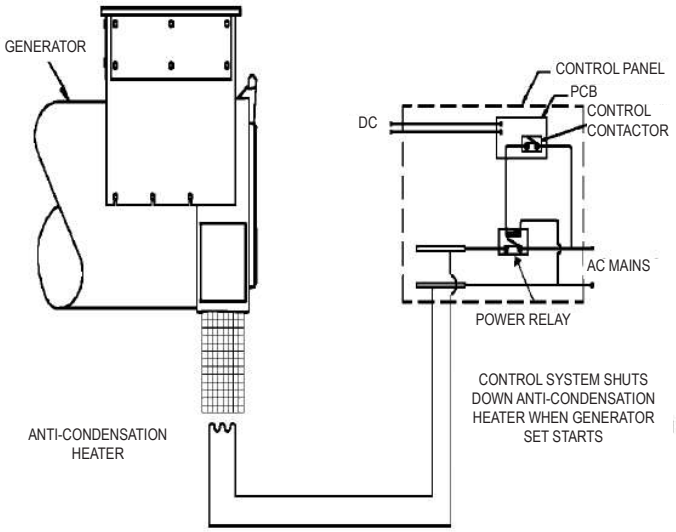
LEHE5347-03 (02/19)

Anti-Condensation Heater



Generator Anti-condensation Heater AH1H

Appropriate when the generator set is to be sited in a low ambient and/or high humidity environment, theheater maintains the AC generator at a suitable temperature to prevent winding corrosion due to condensation.

The heater itself is powered by a 110/120 volt (VAC 120) or 208/240 volt (VAC 240) AC auxiliary supply protected by a fuse inside the main control panel. When the generator set is not running the heater is automatically connected to the AC supply through a power relay mounted in the control panel. Upon receiving a start signal the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed and the engine has stopped.

Generator Frame	Nominal Heater Power Consumption (Watts)
LC15XX, M17XX, M14XX	60
LC31XX, M22XX	100
LC50XX, M27XX	250

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Cat® PL444 4G LTE Radio (Model: PL444 NA) Telematics Hardware

Product Description

The Caterpillar PL444 system is a Telematics product that is designed to record and store data from multiple datalinks (CAN J1939, Modbus RS485) present on higher level systems, then transmit the data offboard via wireless communications (cellular) to back office systems for end customer use.

Features

Design Specifications:

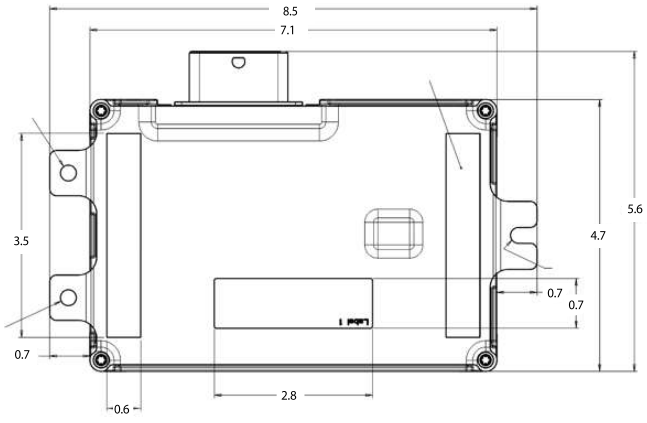
- 4G LTE Category 4 Radio
- GNSS signal tracking
- CAN datalink communication
- Modbus datalink communication
- Durable IP66/67-rated enclosure

Radio Connections / Pinout

	A	B	C	D	E	F	G	K	L	M
1	CAN_H	CAN_L	Not used	Not used	Not used	Not used	Not used	Not used	KSW	Batt+
2	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Wireless Disable	Not used	Batt-
3	RS485 RTN	Not used	Not used	Not used	Not used	Not used	LSD1	Not used	Not used	Not used
4	RS485_A	RS485_B	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used

CAN_H: CAN High
CAN_L: CAN Low
KSW: Keyswitch (Ignition) – Wakes the device up when tied to Batt+ voltage
Batt+: 12/24V Input
Batt-: Ground/Return
Wireless Disable: When pulled to ground, disables all RF transmissions (Cellular)
LSD1/2: Low Side Drivers 1 and 2. Connects a load with a voltage source, to ground when enabled, completing the circuit
RS485 RTN: RS-485 Shield
RS485A/B: RS-485 Modbus connections

Radio Dimensions



*All dimensions are in inches.

Technical Specifications

Input Voltage
Voltage Range ..... 9 to 32V DC
Protection ..... Reverse polarity

Current Consumption
Idle Current (non-transmitting) ..... < 300 mA
Peak Current ..... < 6A
Sleep Current ..... <3 mA

Physical Specifications
Enclosure Material ..... Plastic (PBT+ASA GF30 FR)
Aluminum (AlMg2.5 / H22; H23)
Dimensions (in) ..... 8.5 x 5.6 x 1.4
Weight ..... 0.45 kg
Interface Connectors ..... 48 pin Molex

Environment
Operating/Storage Temp ..... -40°C to +85°C
Ingress Protection IP66/67
Humidity ..... SAE J1455
Vibration ..... 9.8 Grms random (24-2000 Hz), up to 0.5 g^2/Hz

Regulatory Compliance
FCC, IC, CE RED, EN/UL/CSA 62368-1, RoHS, WEEE, REACH

LEDs
Orange — GNSS (Solid: GNSS Fix, 1Hz: Searching/no lock, Off: Fault)
Blue — Datalink (Flashing: Activity on J1939 or Modbus Off: Fault or No Connection)
Yellow — Cellular (Solid: Data connection established, Flashing: Searching for signal, Off: Modem off or Fault)
White — Bluetooth® (Solid: Connection established, Flashing: Advertising mode, Off: Bluetooth off or Fault)

Secure Key Injection
Security ..... Unique and cryptographic identity

Communications
Datalink J1939/CAN
Datalink ..... Modbus (RS-485)
Wireless ..... 4G LTE with 2G/3G fallback
Wireless ..... Bluetooth®/BLE 5.0

I/O
Low Side Drivers (300 mA max) 2
Switch to Ground 1
Keyswitch 1

Positioning (GNSS)
Signal Tracking ..... GPS/Galileo/GLONASS/BeiDou
Antenna ..... Internal

Cellular Communications

LTE Bands/Frequencies

Band	Frequencies (Uplink / Downlink) (MHz)
2	1850-1910 / 1930-1990
4	1710-1755 / 2110-2155
5	824-849 / 869-894
7	2500-2570 / 2620-2690
12/17	699-716 / 729-746
13	777-787 / 746-756

3G (UMTS) Bands/Frequencies

Band	Frequencies (Uplink / Downlink) (MHz)
2	1850-1910 / 1930-1990
4	1710-1755 / 2110-2155
5	824-849 / 869-894

2G (GSM) Bands/Frequencies

Band	Frequencies (Uplink / Downlink) (MHz)
2	1850-1910 / 1930-1990
5	824-849 / 869-894

Antennas ..... 2x internal (Primary + Diversity) to support 2x2 MIMO
SIM ..... eUICC chip
Operating Temperature ..... -30°C to +70°C

Bluetooth® Communications
Frequencies ..... 2402 – 2480 MHz
Version ..... BLE 5.0
Antenna ..... internal

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LEHE20361-00 (06/21)

Generator Data

May 08,2026

For Help Desk Phone Numbers Click here

Spec Info Mechanical Data Cooling Data Motor Starting Curve Open Circuit Curve
Zero Power Factor Curve Reactive Capability Chart General Information

Selected Model

Engine: C7.1 **Generator Frame:** M2294L4 **Genset Rating (kW):** 200.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5953516 **Genset Rating (kVA):** 250.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Self Excited **Pwr. Factor:** 0.8 **Rated Current:** 300.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current
Version: 42423 /44642 /44146 /11710

Spec Information

Generator Specification

Frame: M2294L4 **Type:** LC **No. of Bearings:** 1
Winding Type: RANDOM WOUND **Flywheel:** 11.5
Connection: SERIESSTAR **Housing:** 3
Phases: 3 **No. of Leads:** 12
Poles: 4 **Wires per Lead:** 1
Sync Speed: 180● **Generator Pitch:** ●.6667

Generator Efficiency

Per Unit Load	kW	Efficiency %
0.25	5●	92.1
0.5	1●0	94.1
0.75	150	94
1	200	93.4

Reactances	Per Unit	Ohms
SUBTRANSIENT - DIRECT AXIS X''_d	0.1178	0.1086
SUBTRANSIENT - QUADRATURE AXIS X''_q	0.2285	0.2106
TRANSIENT - SATURATED X'_d	0.1964	0.1810
SYNCHRONOUS - DIRECT AXIS X_d	3.9789	3.6670
SYNCHRONOUS - QUADRATURE AXIS X_q	2.0293	1.8702
NEGATIVE SEQUENCE X_2	0.1732	●.1596
ZERO SEQUENCE X_0	●.0081	0.0075

Time Constants	Seconds
OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0}	2.0257
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d	0.1000
OPEN CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_{d0}	0.0166
SHORT CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_d	0.0100
OPEN CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_{q0}	0.0887
SHORT CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_q	0.0100
EXCITER TIME CONSTANT T_e	0.0460
ARMATURE SHORT CIRCUIT T_a	0.0150

Short Circuit Ratio: 0.3	Stator Resistance = 0.0375Ohms	Field Resistance = 4.0442 Ohms

Voltage Regulation	
Voltage level adjustment: +/-	5.0%
Voltage regulation, steady state: +/-	1.0%
Voltage regulation with 3% speed change: +/-	1.0%
Waveform deviation line - line, no load: less than	2.0%
Telephone influence factor: less than	50

Generator Excitation			
	No Load	**Full Load, (rated) pf**	
		Series	**Parallel**
Excitation voltage:	5.0 Volts	28.7 Volts	Volts
Excitation current	0.6 Amps	3.0 Amps	Amps

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Generator Mechanical Information

Center of Gravity

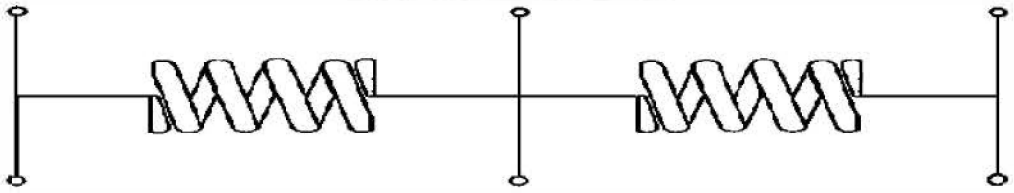
Dimension X	-416 mm	-16.4 IN.
Dimension Y	0 mm	0.0 IN.
Dimension Z	0 mm	0.0 IN.

- "X" is measured from driven end of generator and parallel to rotor. Towards engine fan is positive. See General Information for details
- "Y" is measured vertically from rotor center line. Up is positive.
- "Z" is measured to left and right of rotor center line. To the right is positive.

Generator WT = 554 kg * Rotor WT = 222 kg * Stator WT = 332 kg
1,221 LB 489 LB 732 LB

Rotor Balance = 0 mm deflection PTP
Overspeed Capacity = 125% of synchronous speed

Generator Torsional Data



J1 = Coupling and Fan **J2 = Rotor** **J3 = Exciter End**
TOTAL J = J1 + J2 + J3

K1 = Shaft Stiffness between J1 + J2 (Diameter 1)
K2 = Shaft Stiffness between J2 + J3 (Diameter 2)

J1	**K1**	**Min Shaft Dia 1**	**J2**	**K2**	**Min Shaft Dia 2**	**J3**
0.9 LB IN. s^2	13.1 MLB IN./rad	2.8 IN.	13.4 LB IN. s^2	17.2 MLB IN./rad	3.3 IN.	1.3 LB IN. s^2
0.106 N m s^2	1.47762 MN m/rad	72 mm	1.517 N m s^2	1.94 MN m/rad	85 mm	0.146 N m s^2

Total J

15.7 LB IN. s^2

1.769 N m s^2

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			Version: 42423 /44642 /44146 /11710

Generator Cooling Requirements -
Temperature - Insulation Data

Cooling Requirements:		**Temperature Data: (Ambient 40 ^{0}C)**	
Heat Dissipated:	14.1 kW	**Stator Rise:**	130 ^{0}C
Air Flow:	18 m^3/min	**Rotor Rise:**	130 ^{0}C

Insulation Class: H

Insulation Reg. as shipped: 100MΩ minimum at 40 ^{0}C

Thermal Limits of Generator

Frequency:	60 Hz
Line to Line Voltage:	480 Volts
B BR 80/40	200 kVA
F BR -105/40	227.5 kVA
H BR - 125/40	250 kVA
F PR - 130/40	250 kVA
H PR - 150/40	265 kVA
H PR27 - 163/27	275 kVA

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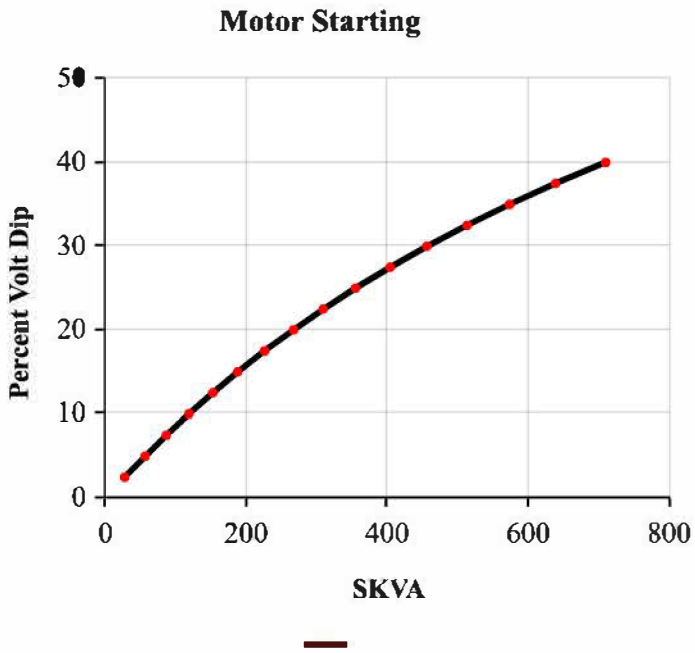
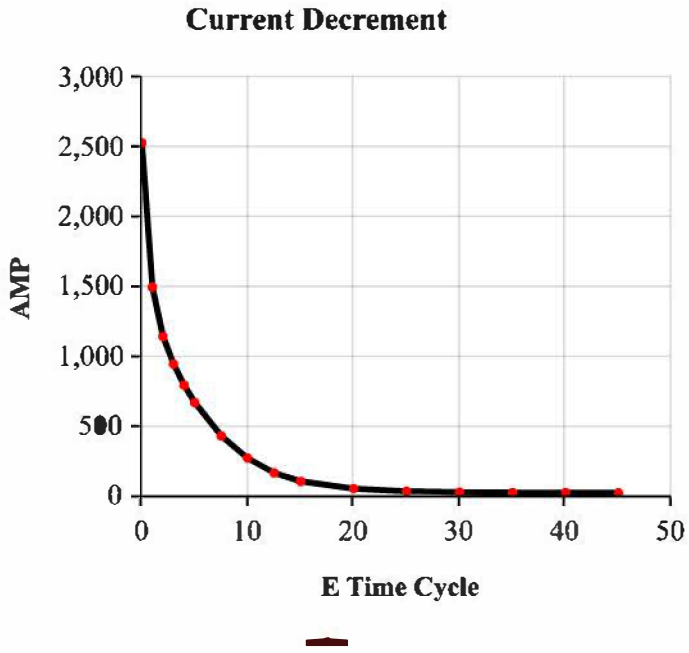
Starting Capability & Current Decrement
Motor Starting Capability (0.6 pf)

SKVA	Percent Volt Dip
27	2.5
56	5.0
86	7.5
118	10.0
152	12.5
187	15.0
225	17.5
266	20.0
308	22.5
354	25.0
403	27.5
455	30.0
512	32.5
572	35.0
637	37.5
708	40.0



Current Decrement Data

E Time Cycle	AMP
0.0	2,532
1.0	1,499
2.0	1,148
3.0	951
4.0	800
5.0	675
7.5	437
10.0	278
12.5	173
15.0	112
20.0	60
25.0	42
30.0	35
35.0	32
40.0	31
45.0	30



Instantaneous 3 Phase Fault Current: 2532 Amps **Instantaneous Line - Line Fault Current:** 1776 Amps
Instantaneous Line - Neutral Fault Current: 2992 Amps

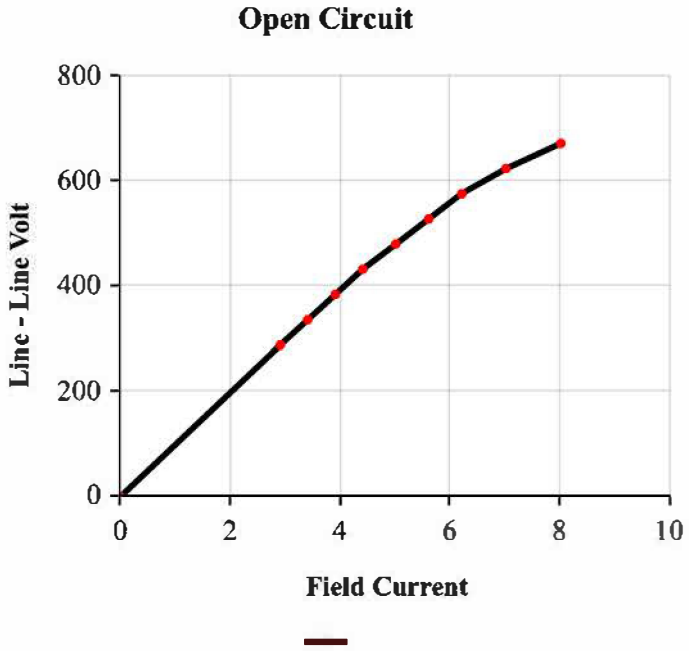
Top...

Selected Model

Engine: C7.1 **Generator Frame:** M2294L4 **Genset Rating (kW):** 200.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5953516 **Genset Rating (kVA):** 250.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Self Excited **Pwr. Factor:** 0.8 **Rated Current:** 300.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current
Version: 42423 /44642 /44146 /11710

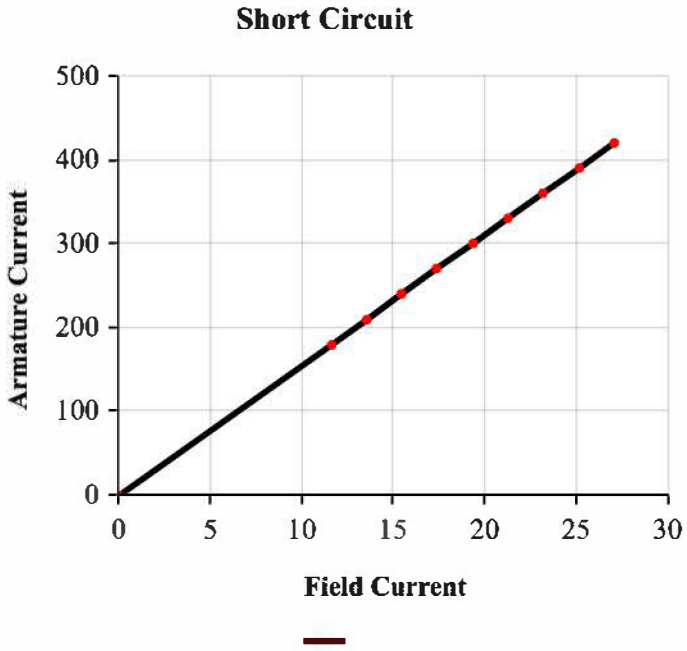
Generator Output Characteristic Curves
Open Circuit Curve

Field Current	Line - Line Volt
0.0	0
2.9	288
3.4	336
3.9	384
4.4	432
5.0	480
5.6	528
6.2	576
7.0	624
8.0	672



Short Circuit Curve

Field Current	Armature Current
0.0	0
11.6	180
13.5	210
15.4	241
17.3	271
19.3	301
21.2	331
23.1	361
25.1	391
27.0	421



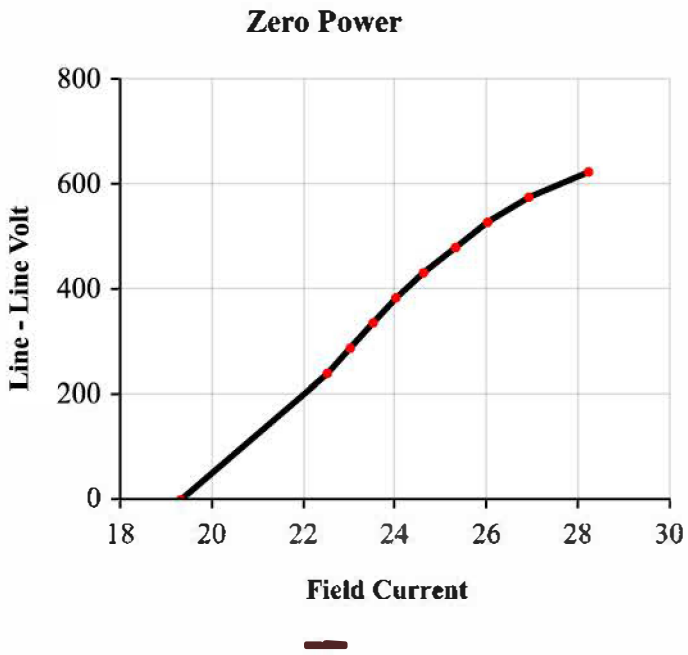
Top...

Selected Model

Engine: C7.1 **Generator Frame:** M2294L4 **Genset Rating (kW):** 200.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5953516 **Genset Rating (kVA):** 250.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Self Excited **Pwr. Factor:** 0.8 **Rated Current:** 300.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current
Version: 42423 /44642 /44146 /11710

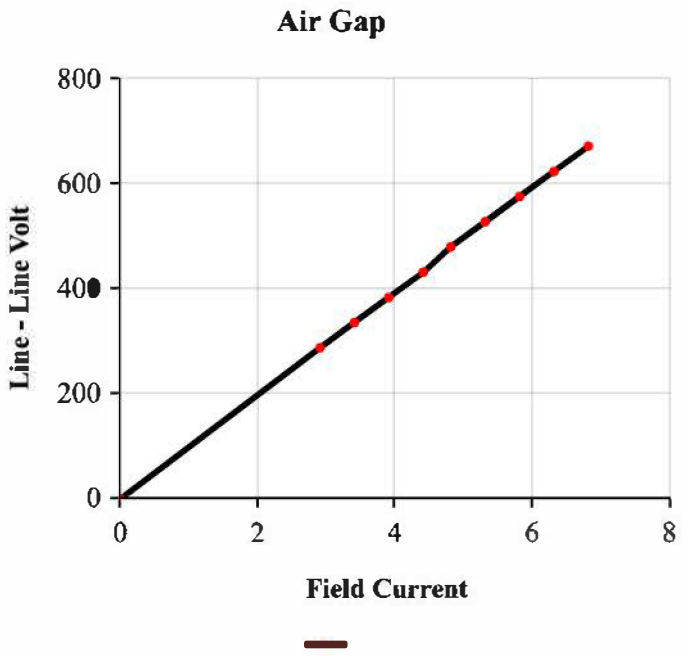
Zero Power Factor Curve

Field Current	Line - Line Volt
19.3	0
22.5	240
23.0	288
23.5	336
24.0	384
24.6	432
25.3	480
26.0	528
26.9	576
28.2	624



Air Gap Curve

Field Current	Line - Line Volt
0.0	0
2.9	288
3.4	336
3.9	384
4.4	432
4.8	480
5.3	528
5.8	576
6.3	624
6.8	672

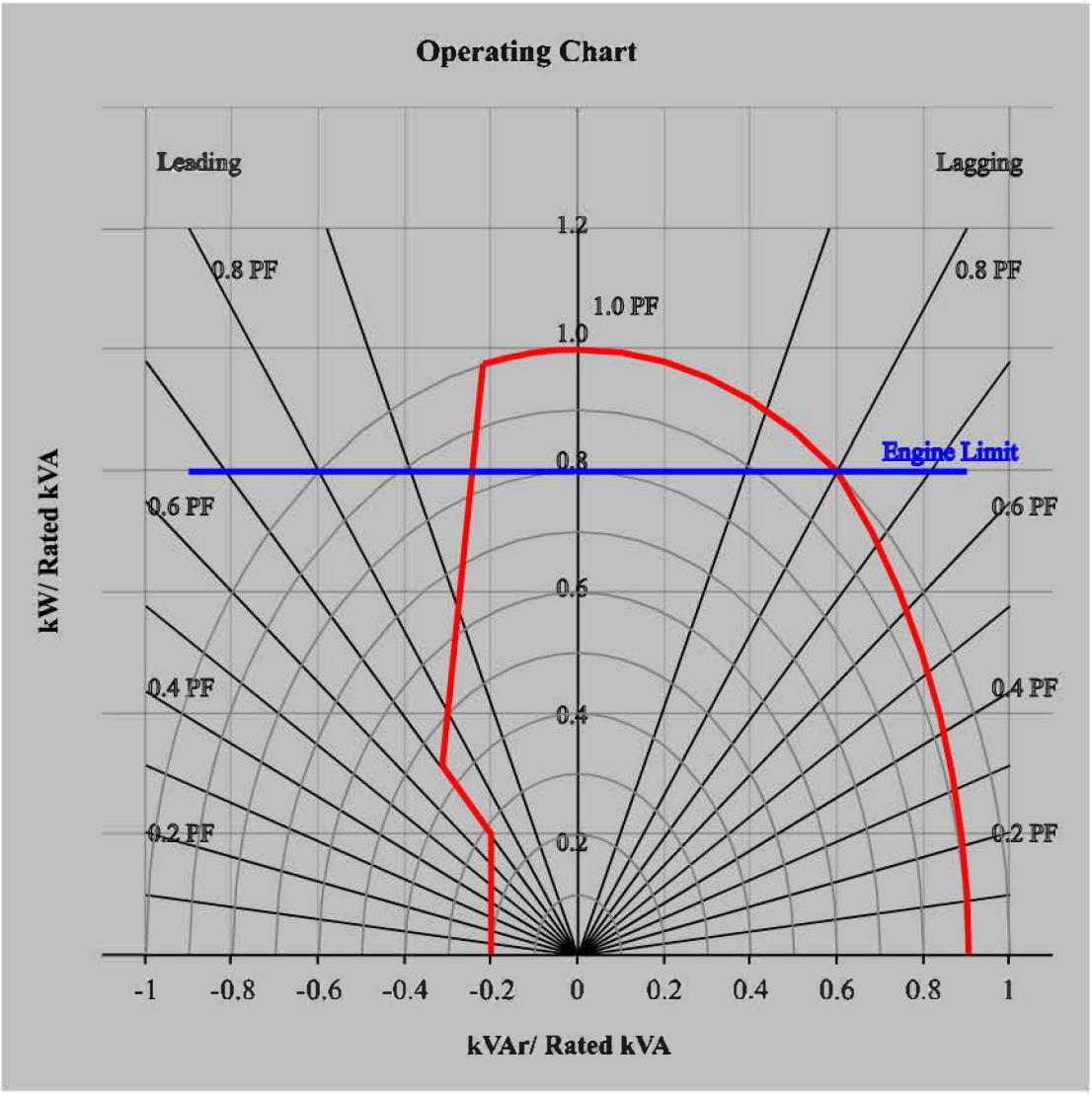


Top...

Selected Model

Engine: C7.1 **Generator Frame:** M2294L4 **Genset Rating (kW):** 200.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5953516 **Genset Rating (kVA):** 250.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Self Excited **Pwr. Factor:** 0.8 **Rated Current:** 300.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current
Version: 42423 /44642 /44146 /11710

Reactive Capability Curve



Top...

Selected Model

Engine: C7.1	**Generator Frame:** M2294L4	**Genset Rating (kW):** 200.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5953516	**Genset Rating (kVA):** 250.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Self Excited	**Pwr. Factor:** 0.8	**Rated Current:** 300.7
Duty: STANDBY	**Connection:** SERIES STAR	**Application:** EPG	**Status:** Current
			Version: 42423 /44642 /44146 /11710

General Information

GENERATOR INFORMATION (DM7900)

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1. Motor Starting
Motor starting curves are obtained in accordance with IEC60034, and are displayed at 0.6 power factor.

2. Voltage Dip
Prediction of the generator synchronous voltage dip can be made by consulting the plot for the voltage dip value that corresponds to the desired motor starting kVA value.

3. Definitions
A) Generator Keys
Frame: abbreviation of generator frame size
Freq: frequency in hertz.
PP/SB: prime/standby duty respectively
Volts: line - line terminal voltage
kW: rating in electrical kilo watts
Model: engine sales model

B) Generator Temperature Rise
The indicated temperature rises are the IEC/NEMA limits for standby or prime power applications. The quoted rise figures are maximum limits only and are not necessarily indicative of the actual temperature rise of a given machine winding.

C) Centre of Gravity
The specified centre of gravity is for the generator only. For single bearing, and two bearing close coupled generators, the center of gravity is measured from the generator/engine flywheel-housing interface and from the centreline of the rotor Shaft.

For two bearing, standalone generators, the center of gravity is measured from the end of the rotor shaft and from the centerline of the rotor shaft.

D) Generator Current Decrement Curves
The generator current decrement curve indicates the generator armature current arising from a symmetrical three-phase fault at the generator terminals. Generators equipped with AREP or PMG excitation systems will sustain 300% of rated armature current for 10 seconds.

E) Generator Efficiency Curves
The efficiency curve is displayed for the generator only under the given conditions of rating, voltage, frequency and power factor. This is not the overall generating set efficiency curve.

CATERPILLAR®

Gen Set Package Performance Data [P4364A] May 08,2026

For Help Desk Phone Numbers Click here

Performance Number:P4364A **Change Level:** 00

Sales Model: C7.1 DITA **Combustion:** DI **Aspr:** TA

Engine Power:
200 W/F EKW **Speed:** 1,800 RPM **After Cooler:** AA
315 HP

Manifold Type: **Governor Type:** **After Cooler Temp(F):** 115

Turbo Quantity: **Engine App:** GP **Turbo Arrangement:**

Hertz: 60 **Application Type:** PACKAGE-DIE **Engine Rating:** PGS **Strategy:**

Rating Type: STANDBY **Certification:**

General Performance Data 1

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	ENGINE BMEP PSI	FUEL BSFC LB/BHP-HR	FUEL RATE GPH	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
200	100	315	324.03	0.34	15.5	63.76	596.82	991.4	1,352.55
179.9	90	284	291.56	0.35	14.27	59.4	575.63	974.48	1,303.11
134.9	67	213	218.66	0.38	11.41	49.93	519.13	916.52	1,140.66
89.9	45	142	145.78	0.38	7.75	36.37	427.31	768.38	851.08
45	22	71	72.88	0.42	4.2	15.81	293.11	637.88	529.72

Engine Heat Rejection Data

GEN W/F EKW	PERCENT LOAD	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	FROM AFT CLR BTU/MN
200	100	5,226.3	2,001.8	10,304.8	2,695.6
179.9	90	4,936.3	1,876.7	9,645.1	2,439.7
134.9	67	4,094.6	1,478.6	7,961.8	1,933.6
89.9	45	3,127.8	1,023.7	5,516.4	1,308.0
45	22	1,990.4	568.7	2,957.2	534.6

EMISSIONS DATA

********** J1

No notes were found for this certification...

REFERENCE EXHAUST STACK DIAMETER	0 IN
WET EXHAUST MASS	2,552.9 LB/HR
WET EXHAUST FLOW (-- STACK TEMP)	--

WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	--
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	--
FUEL FLOW RATE	--

RATED SPEED "Potential site variation"

TOTAL CO LB/HR	PERCENT LOAD	TOTAL HC LB/HR	PART MATTER LB/HR
0	0	.0100	.0000

The powers listed above and all the Powers displayed are Corrected Powers

Identification Reference and Notes

Engine Arrangement:		**Lube Oil Press @ Rated Spd(PSI):**	59.3
Effective Serial No:		**Piston Speed @ Rated Eng SPD(FT/Min):**	--
Primary Engine Test Spec:		**Max Operating Altitude(FT):**	-3,277.6
Performance Parm Ref:		**PEEC Elect Control Module Ref**	
Performance Data Ref:	P4364A	**PEEC Personality Cont Mod Ref**	
Aux Coolant Pump Perf Ref:			
Cooling System Perf Ref:		**Turbocharger Model**	
Certification Ref:	EPA TIER 3 EQUIV	**Fuel Injector**	
Certification Year:		**Timing-Static (DEG):**	--
Compression Ratio:	16.7	**Timing-Static Advance (DEG):**	--
Combustion System:	DI	**Timing-Static (MM):**	--
Aftercooler Temperature (F):	115	**Unit Injector Timing (MM):**	--
Crankcase Blowby Rate(CFH):	--	**Torque Rise (percent)**	0.0
Fuel Rate (Rated RPM) No Load(Gal/HR):	--	**Peak Torque Speed RPM**	1800
Lube Oil Press @ Low Idle Spd(PSI):	63.5	**Peak Torque (LB.FT):**	919.7

Reference Number: P4364A J1

Parameters Reference:

Image shown may not reflect actual configuration

D40 GC - D200 GC

Sound Attenuated Level 2 Enclosures

60 Hz: 40 ekW - 200 ekW

Features

Robust/Highly Corrosion Resistant Construction

- Factory installed on skid base or 24hr Integral fuel tank
- Caterpillar white paint
- Environmentally friendly, polyester powder baked paint
- 18 gauge steel minimum.
- Zinc plated fasteners
- Stainless steel hinges
- Internally mounted exhaust silencing system
- Designed and tested to comply with UL 2200 Listed generator set package.
- Enclosures are weatherproof and are extremely rugged to withstand outdoor exposure to the elements of weather.
- Comply with ASCE /SEI 7 for Wind Loads up to 100mph
- Optional seismic certification offered
- Compression door latches providing solid door seal

Excellent Access

- Large cable entry area for installation ease
- Accommodates side mounted single or multiple breakers
- Single door on left hand side
- Dual doors on right hand side
- Doors vertically hinged allow 180° opening rotation
- Doors capable of lift off at 90° opening rotation
- For non-routine service access are removeable panels
- Lube oil drain valve standard with coolant drain and valve piped to the exterior of the enclosure base
- Radiator fill cover

Security and Safety

- Lockable (keyed or padlock) doors which give full access to control panel and breaker
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill and battery can only be reached via lockable access
- Optional externally mounted emergency stop button
- Designed for spreader bar lifting to ensure safety
- Stub-up area is rodent proof

- **Options**
- Skid base compatible
- UL Listed integral fuel tank with 24 hour running time capacity
- DC lighting package

Enclosure Package Operating Characteristics

A. Sound Attenuated- Level 2

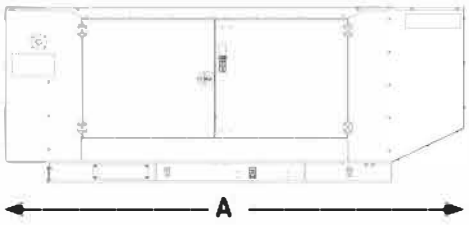
Model	Hz	ekW	SB	Sound Pressure Levels dBA 7m (23ft)	Air Flow Rate		Ambient Capability* @100% Load	
				100% Load	m³/s	cfm	°C	°F
D40 GC	60	40	SB	67.7	1.5	3178.3	60	140
D50 GC	60	50	SB	68.6	1.5	3178.3	54	129
D60 GC	60	60	SB	69.6	1.5	3178.3	48	118
D80 GC	60	80	SB	76.5	3.5	7416.1	60	140
D100 GC	60	100	SB	76.4	3.5	7416.1	52	126
D125 GC	60	125	SB	74.8	3.4	7204.2	61	142
D150 GC	60	150	SB	75.4	3.4	7204.2	54	129
D175 GC	60	175	SB	79.3	4.1	8687.4	49	120
D200 GC	60	200	SB	79.5	4.1	8687.4	44	111

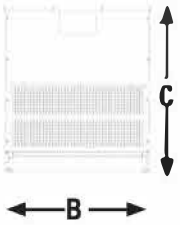
*Cooling system performance at sea level. Consult your Cat dealer for site specific ambient and altitude capabilities.
*Note: Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

B. Component Weights to Calculate Package Weight

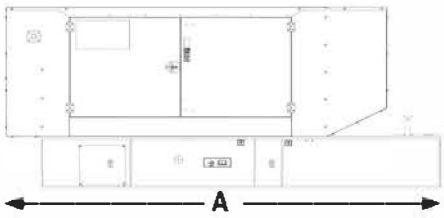
Standby ekW	Wide Skid Base		Sound Attentuted Enclosure (Steel)	
	kg	lb	kg	lb
40-60	92.6	204.1	178.8	394.2
80-100	96.2	212.1	189.1	416.9
125-200	115.9	255.5	274.4	604.9

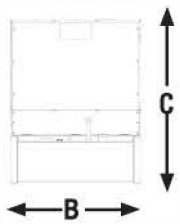
C. Weights & Dimensions





Sound Attenuated Enclosure on Skid Base





Sound Attenuated Enclosure
on a UL Listed Integral Fuel Tank Base

*Note: For reference only – do not use for installation design. Please contact your local dealer for exact weights and dimensions

Enclosure Type	Standby ratings	Length, L		Width, W		Height, H		Package Weights	
	ekW	mm	in	mm	in	mm	in	kg	lb
Open Set on Skid (wide Base)	40	1976	77.2	1099.8	43.3	1219.2	48.0	837.7	1847
	50	1976	77.2	1099.8	43.3	1219.2	48.0	931.6	2054
	60	1976	77.2	1099.8	43.3	1219.2	48.0	905.8	1997
	80	2098	82.6	1099.8	43.3	1343.6	52.9	950.2	2095
	100	2098	82.6	1099.8	43.3	1343.6	52.9	1007.8	2222
	125	2634	103.7	1300.4	51.2	1402	55.2	1405.6	3099
	150	2634	103.7	1300.4	51.2	1402	55.2	1561.7	3443
	175	2634	103.7	1300.4	51.2	1490.9	58.7	1696.8	3741
	200	2634	103.7	1300.4	51.2	1490.9	58.7	1776.7	3917
Open Set on a UL Listed Integral Fuel Tank Base	40	2707.6	106.6	1099.8	43.3	1384.3	54.5	1536.3	3387
	50	2707.6	106.6	1099.8	43.3	1384.3	54.5	1630.2	3594
	60	2707.6	106.6	1099.8	43.3	1384.3	54.5	1604.3	3537
	80	3035.3	119.5	1099.8	43.3	1582.4	62.3	1914.1	4220
	100	3035.3	119.5	1099.8	43.3	1582.4	62.3	1972.2	4348
	125	3670.3	144.5	1300.4	51.2	1757.6	69.2	3207.8	7072
	150	3670.3	144.5	1300.4	51.2	1757.6	69.2	3363.3	7415
	175	3670.3	144.5	1300.4	51.2	1846.6	72.7	3498.5	7713
	200	3670.3	144.5	1300.4	51.2	1846.6	72.7	3578.4	7889
Sound Attenuated Enclosure on Skid Base	40	2456.1	96.1	1120.1	44.1	1330.9	52.4	1016.5	2241
	50	2456.1	96.1	1120.1	44.1	1330.9	52.4	1110.4	2448
	60	2456.1	96.1	1120.1	44.1	1330.9	52.4	1084.5	2391
	80	2768.6	109.0	1120.1	44.1	1432.5	56.4	1139.4	2512
	100	2768.6	109.0	1120.1	44.1	1432.5	56.4	1197.0	2639
	125	2633.9	103.7	1318.2	51.9	1569.7	61.8	1680.1	3704
	150	2633.9	103.7	1318.2	51.9	1569.7	61.8	1836.1	4048
	175	2633.9	103.7	1318.2	51.9	1569.7	61.8	1971.3	4346
	200	2633.9	103.7	1318.2	51.9	1569.7	61.8	2051.1	4522
Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base	40	2931.1	115.4	1120.1	44.1	1496	58.9	1715.0	3781
	50	2931.1	115.4	1120.1	44.1	1496	58.9	1808.9	3988
	60	2931.1	115.4	1120.1	44.1	1496	58.9	1783.1	3931
	80	3256.2	128.2	1120.1	44.1	1673.8	65.9	2103.3	4637
	100	3256.2	128.2	1120.1	44.1	1673.8	65.9	2161.4	4765
	125	4008.1	157.8	1318.2	51.9	1925.3	75.8	3481.8	7676
	150	4008.1	157.8	1318.2	51.9	1925.3	75.8	3637.8	8020
	175	4008.1	157.8	1318.2	51.9	1925.3	75.8	3773.0	8318
	200	4008.1	157.8	1318.2	51.9	1925.3	75.8	3852.8	8494

*Note: Weights include genset, enclosure (where applicable), tank and fuel (where applicable)

LET'S DO THE WORK.™

LEHE20120-04 (05/24)

Image show might not reflect actual product

Integral Fuel Tanks

D40 GC – D200 GC

Features

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitates compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code
- Dual wall
- Low fuel level warning standard, customer configurable warning or shutdown
- Primary tank leak detection switch in containment basin
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical

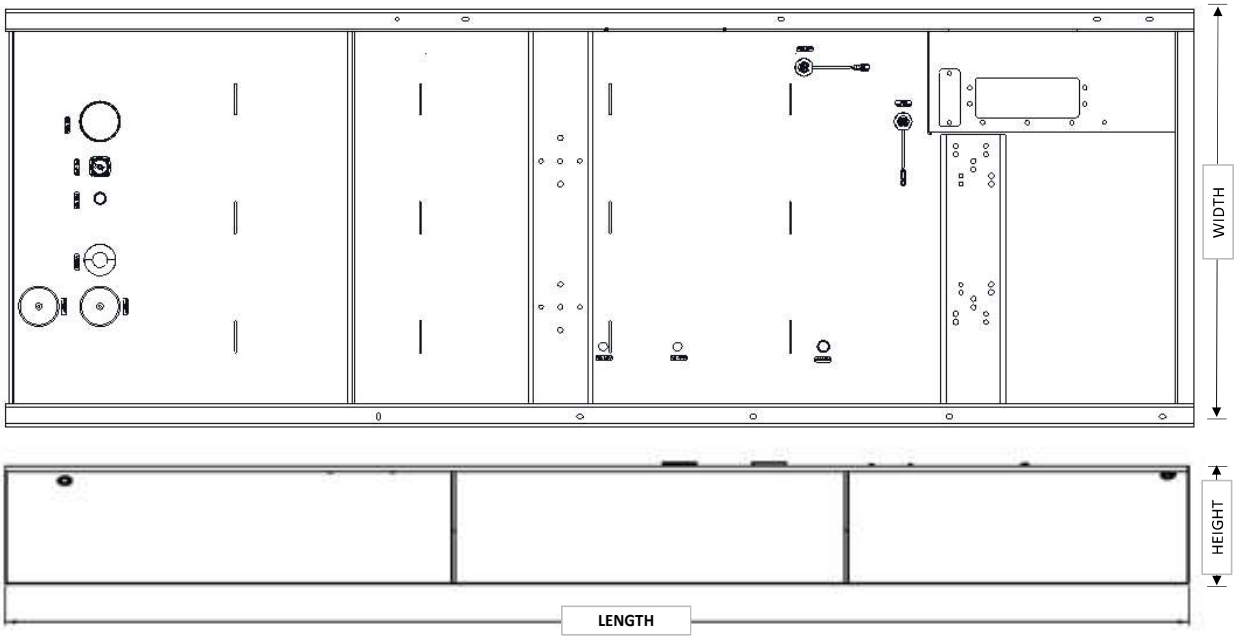
Integral

- Integral diesel fuel tank is incorporated into the generator set base frame
- Robust base design includes linear vibration isolators between tank base and engine generator.

Options

- Audio/visual fuel level alarm panel
- 5 gal (18.9L) spill containment
- Fuel tank fill pipe and lockable cap
- Overfill prevention Valve

Integral Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights



The heights listed above do not include lumber used during manufacturing and shipping

A. Open Set & Sound Attenuated Enclosure

Standby eKW	Feature Code	Total Capacity		Useable Capacity	
		Litre	Gallon	Litre	Gallon
40-60	FTDW044	523	138.2	466	123.1
80-100	FTDW043	769	203.1	690	182.3
125-200	FTDW045	1511	399.2	1355	357.9

Standby eKW	Feature Code	Tank Only								Overall Package Height with Tank			
		Dry Weight		Height 'H'		Length 'L'		Width		Open		Enclosure	
		kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in
40-60	FTDW044	387.5	853.2	365	14.4	2708	106.6	1100	43.3	1384	54.5	1496	58.9
80-100	FTDW043	462.5	1019.6	440	17.3	3035	119.5	1100	43.3	1583	62.3	1673	65.9
125-200	FTDW045	736.1	1622.8	555	21.9	3670	144.5	1300	51.2	1847	72.7	1925	75.8

Time (Hours)

Tank Design	Feature Code	Standby Ratings (kVA)						
		ekW	100%		75%		50%	
			Hrs	L/hr	Hrs	L/hr	Hrs	L/hr
Integral Tank	FTDW044	40	33.5	13.9	43.1	10.8	57.5	8.1
		50	27.7	16.8	36.4	12.8	50.1	9.3
		60	24.0	19.4	27.7	16.8	35.6	13.1
	FTDW043	80	29.1	23.7	36.3	19.0	49.6	13.9
		100	24.0	28.8	29.7	23.2	40.1	17.2
	FTDW045	125	35.8	37.8	44.7	30.3	61.9	21.9
		150	31.5	43.0	38.8	34.9	54.2	25.0
		175	26.5	51.2	32.3	41.9	47.4	28.6
		200	24.0	56.4	29.6	45.8	41.6	32.6

Tanks include RH stub-up area directly below the circuit breaker or power terminal strips.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

LEHE2681-00 (09/20)

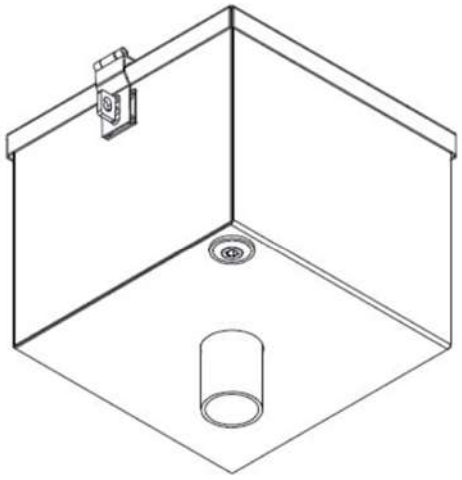


Image shown may not reflect actual configuration

5 Gallon Steel Spill Containment Box

Durable spill containment box designed for containment of small spills during filling of an above ground storage tank.

Features

- Optional overfill prevention valve
- Lockable hinged cover.

Dimensions

- Height: 13.08"
- Height with pipe: 13.40"
- Body Width: 12.38"
- Width: 13.68"
- Weight: 22 lbs.

LEHE0984-00 (12-15)

Dip Charts

D40 GC - D200 GC

Dip Charts for Fuel Tanks

U.S. Sourced

Diesel Generator Set

40-200kW 60 Hz

Integral Tanks

D80 GC - D100 GC FTDW043		D40 GC - D60 GC FTDW044		D125 GC - D200 GC FTDW045			
Inches of Fuel on Dipstick	Measured Gallons	Inches of Fuel on Dipstick	Measured Gallons	Inches of Fuel on Dipstick	Measured Gallons	Inches of Fuel on Dipstick	Measured Gallons
0.5	7.8	0.5	6.8	0.5	11.5	14	322.4
1	15.5	1	13.7	1	23.0	14.5	333.9
1.5	23.3	1.5	20.5	1.5	34.5	15	345.4
2	31.1	2	27.3	2	46.1	15.5	356.9
2.5	38.8	2.5	34.2	2.5	57.6	16	368.4
3	46.6	3	41.0	3	69.1	16.5	379.9
3.5	54.4	3.5	47.9	3.5	80.6	17	391.4
4	62.1	4	54.7	4	92.1	17.17	395.3
4.5	69.9	4.5	61.5	4.5	103.6		
5	77.7	5	68.4	5	115.1		
5.5	85.4	5.5	75.2	5.5	126.6		
6	93.2	6	82.0	6	138.2		
6.5	101.0	6.5	88.9	6.5	149.7		
7	108.7	7	95.7	7	161.2		
7.5	116.5	7.5	102.5	7.5	172.7		
8	124.3	8	109.4	8	184.2		
8.5	132.0	8.5	116.2	8.5	195.7		
9	139.8	9	123.1	9	207.2		
9.5	147.6	9.5	129.9	9.5	218.7		
10	155.3	10	136.7	10	230.3		
10.5	163.1	10.8	137.8	10.5	241.8		
11	170.9			11	253.3		
11.5	178.6			11.5	264.8		
12	186.4			12	276.3		
12.5	194.2			12.5	287.8		
13	201.9			13	299.3		
13.03	202.4			13.5	310.8		

GCCP 1.2
Control Panel

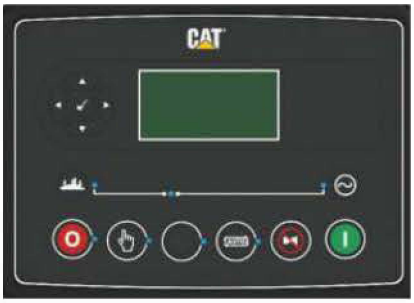


Image shown may not reflect actual configuration.

GCCP 1.2 – Control Panel

GCCP 1.2 is an Auto Start Control Module suitable for a wide variety of diesel gen-set applications. Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC.

Description

The controller is compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality. The modules can be easily configured using a configuration suite PC software.

Full Range of Attachments

- Wide range of system expansion attachments, designed specifically to work with the GCCP controller
- Flexible packaging options for easy and cost effective installation

Benefits

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements
- RS485 Communication port can be used for the Remote Monitoring Communication (Compatible with Cat PLG)

World Wide Product Support

- Cat dealers provide extensive pre and post sale support
- Cat dealers have over 1,600 dealer branch stores operating in 200 countries

Features

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and images
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf) kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN Support for 0V to 10V & 4 mA to 20 mA sensors
- 8 Configurable digital inputs (3 available for Customer use)
- 8 Configurable digital outputs (5 available for Customer use)
- 4 Configurable analogue inputs (3 available for Customer use)
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- 3 Configurable maintenance alarms
- MODBUS RTU support
- User configurable MODBUS pages

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING

8V to 35V continuous
5V for upto 1 minute

CRANKING DROPOUTS

Able to survive 0V for 100 mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries.

LEDs and backlight will not be maintained during cranking

MAXIMUM OPERATING CURRENT

260 mA at 12V, 150 mA at 24V

MAXIMUM STANDBY CURRENT

145 mA at 12V, 85 mA at 24V

CHARGE FAIL/EXCITATION RANGE

0V to 35V

GENERATOR & MAINS (UTILITY) VOLTAGE RANGE

15V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

MAGNETIC PICK-UP VOLTAGE RANGE

+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H

Negative switching

ANALOGUE INPUTS A TO D

Configurable as:

Negative switching digital input 0-10V sensor 4 mA to 20 mA Resistive Sensor

ANALOGUE INPUTS A TO C

Configurable as:

Negative switching digital input Resistive Sensor

OUTPUTS

OUTPUT A and B (FUEL & START)

15 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G, H, I & J 2

A DC at supply voltage

DIMENSIONS

OVERALL

216 mm x 158 mm x 43 mm
8.5" x 6.2" x 1.5"

PANEL CUTOUT

184 mm x 137 mm
7.2" x 5.3"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

OPERATING TEMPERATURE

-30°C to +70°C
-22°F to +158°F

STORAGE TEMPERATURE RANGE

-40°C to +85°C
-40°F to +185°F

STANDARDS

UL, cUL Listed

NFPA 70#

Electro-Magnetic Compatibility: BS EN 61000-6-2/6-4 Electrical Safety: BS EN 60950

Temperature: BS EN 60068-2-1, BS EN 60068-2-2

Vibration: BS EN 60068-2-6

Humidity: BS EN 60068-2-30, BS EN 60068-2-78 Shock: BS EN 60068-2-27

Degrees of protection provided by enclosures: BS EN 60529 Ingress Protection: IP65 – Front of module when installed into the control panel with the optional sealing gasket

Applicable codes and standards facilitate compliance to NFPA 70

Cat® GC

CAT Part # 605-8605 ALARM GP - GCCP REMOTE ANNUNCIATOR
LS4259 / ANNR02_S (16) LIGHT REMOTE ANNUNCIATOR W/ BOX
Control Panel Options

Image shown might not reflect actual configuration

Remote Annunciator Module

It is an LED expansion module that can be used with compatible control modules. The module has been designed to display a maximum of eight individual LED indications up to a maximum distance of 1 KM (0.6miles).

The Annunciator will consist of two modules to provide a 16 Channel Fault annunciation.

It is presented in a vertical enclosure. It includes an alarm sounder that is triggered when the host controller detects an alarm condition. The alarm can be muted using the front push button.

The Panels will be fitted with removable label cards which can be used to identify the standard NFPA alarms. If desired

It includes individual LEDs for each channel and a 'Power On' LED that flashes when the link with the host controller is lost.

FEATURES

- The Remote annunciator has an integral Sounder / Horn
- Eight configurable LEDs (per module)
- Works up to 1 KM (0.6 miles) from the host controller
- A single Controller can support five Caterpillar Configured remote annunciator control boxes

ENVIRONMENTAL TESTING STANDARDS

ELECTRO-MAGNETIC COMPATIBILITY
BS EN 61000-6-2
EMC Generic Immunity Standard for the Industrial Environment
BS EN 61000-6-4
EMC Generic Emission Standard for the Industrial Environment

ELECTRICAL SAFETY
BS EN 60950
Safety of Information Technology Equipment, including Electrical Business Equipment

TEMPERATURE
BS EN 60068-2-1
Ab/Ae Cold Test -30 °C BS EN 60068-2-2
Bb/Be Dry Heat+70°C

VIBRATION
BS EN 60068-2-6
Ten sweeps in each of three major axes
5 Hz to 8 Hz @ +/-7.5 mm, 8 Hz to 500 Hz @ 2 gn

SHOCK
BS EN 60068-2-27
Three shocks in each of three major axes 15 gn in 11 Ms

HUMIDITY
BS EN 60068-2-30
Db Damp Heat Cyclic 20/55 °C @ 95% RH 48 Hours
BS EN 60068-2-78
Cab Damp Heat Static 40 °C @ 93% RH 48 Hours

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES BS EN 60529
IP65 - Front of module when installed into the control panel with the supplied sealing gasket.

SPECIFICATION

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous

CRANKING DROPOUTS
Able to survive 0 V for 50 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
112 mA at 12 V, 53 mA at 24 V

MAXIMUM STANDBY CURRENT
74 mA at 12 V, 35 mA at 24 V

DIMENSIONS OVERALL
330 mm x 229 mm x 102 mm
12.99" x 9.01" x 4.01"

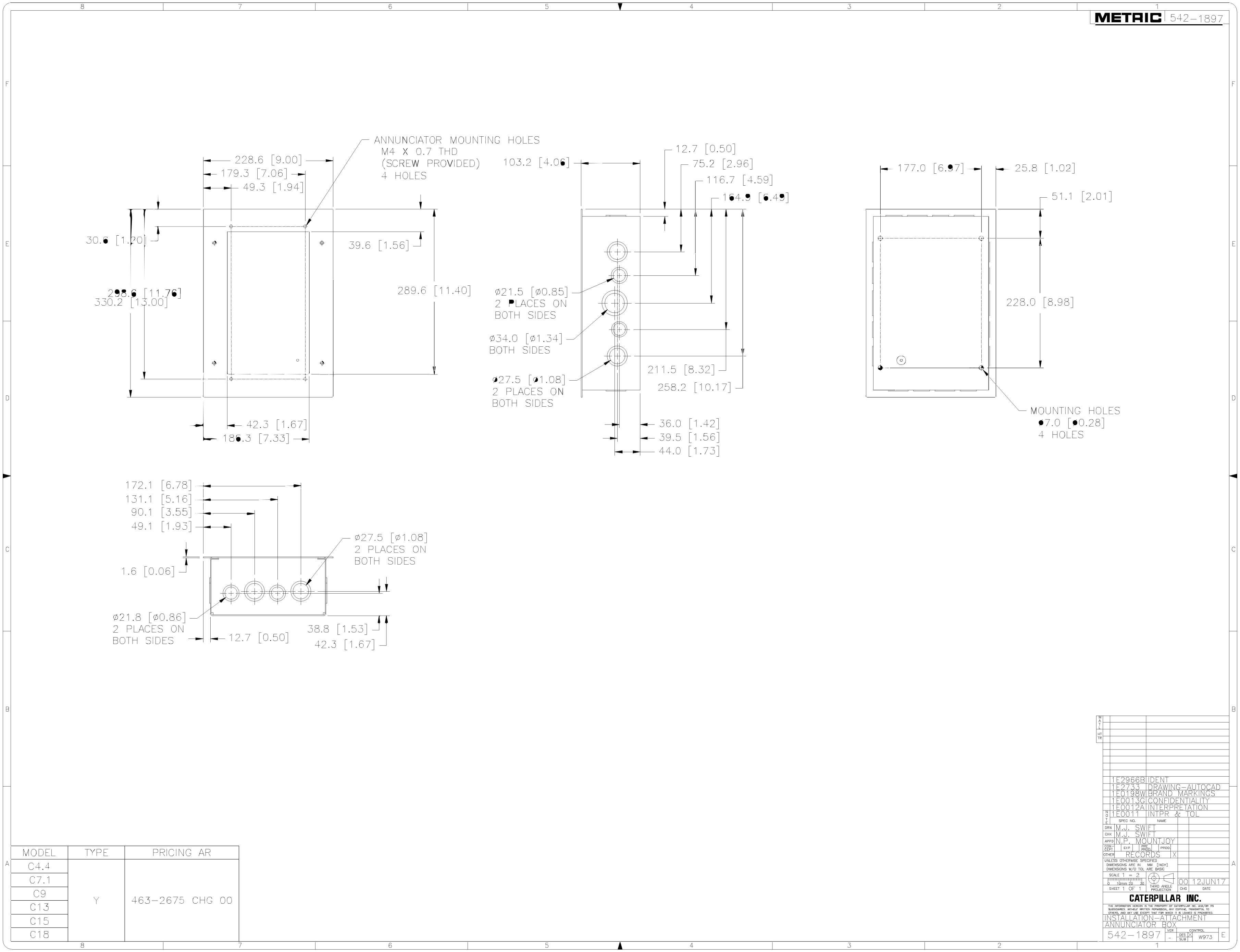
Face Plate attached to the Grey Junction Box

PANEL CUT-OUT
310 mm x 207 mm x 102 mm
12.20" x 8.14" x 4.01"

Grey Galvanized Junction Box ONLY

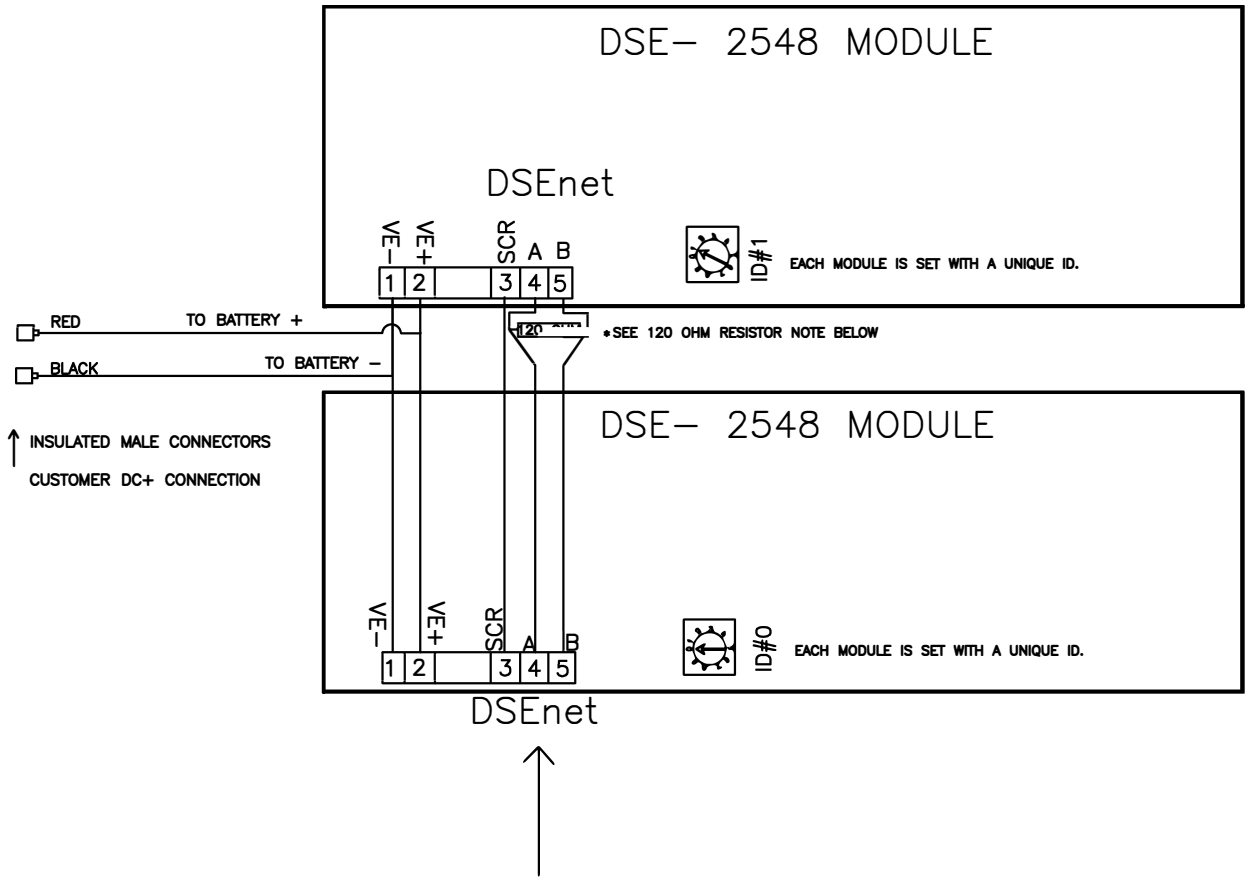
MAXIMUM PANEL THICKNESS
8 mm
0.3"

Remote Annunciator Drawing



MODEL	TYPE	PRICING AR
C4.4	Y	463-2675 CHG 00
C7.1		
C9		
C13		
C15		
C18		

PANELSOURCE P6–16–DS ANNUNCIATOR PANEL



(2) Pairs of 14 AWG THHN & 9841 Cable is Recommended By Thompson CAT

Customer Communication Cable Connection Point.

Belden 9841 OR 9271 Direct equivalent 120ohm rated twisted pair cable must be used.

See host controller operator manual or panelsource DC schematic for DSEnet terminal numbers.

REQUIRES DEEP SEA CONFIGURATION SUITE PC SOFTWARE TO CONFIGURE

DSE–2548 LED Expansion Module(s) configured through compatible DSE host controller (EX. DSE–7310MKII, DSE–7410MKII, DSE–8610II, etc)

——— WIRED BY PANELSOURCE — · — · — · — WIRED BY CUSTOMER	* 120 OHM RESISTOR SEE "DSE NET FOR EXPANSION MODULES" IN CONTROLLER OPERATORS MANUAL	UNLESS OTHERWISE SPECIFIED: ALL DC WIRES 16AWG. RELAY JUMPERS 16AWG COM CABLE – BELDEN 9841 SCALE: NOT TO SCALE	Panelsource ENGINE & GENERATOR CONTROLS	TITLE: P6-16-DS DRAWING NUMBER: P6-16-DS	ORIG. DATE: 23–JUN–014 DRAWN BY: TE REVISION: REV2.0	LAST REV. DATE: 01–OCT–018 SHEET 1 OF 1

Manually Operated Circuit Breakers for D40 GC – D200 GC Diesel Generator Sets

Current (A)	Frame	Number of Poles	Interrupting Ratings (kA ms)			Trip Unit	(#)Lugs Size	Auxilliary Options
			240V	480V	600V			
60	H	3	65	35	18			
100	H	3	65	35	18		(1) 14-2/0 AWG	Form C (1NC & 1NO) Shunt Trip (12V)
150	H	3	65	35	18			
250	J	3	65	35	18	LSI	(1) 1/0-300 kcmil	
400	XT5	3	65	35	18			
600	XT6	3	65	35	20		Bus Bar	1 Form C + 1 Bell Alarm Shunt Trip (12V)
800	XT6	3	65	35	20			

(#) No of Cables per lug.

BUS BAR ONLY
CUSTOMER WILL HAVE TO SUPPLEY LUGS

Diesel D40 GC – D60 GC

First Breaker	Second Breaker
Circuit Breaker (A)	Circuit Breaker (A)
60	60
100	100
150	150
250	—

Diesel D80 GC – D200 GC

First Breaker	Second Breaker
Circuit Breaker (A)	Circuit Breaker (A)
100	60
150	100
250	150
400	250
600	—
800	—

Available Breaker Configurations	
First Breaker	Second Breaker
H	—
H	H
H	J
J	—
J	J
J	H

Available Breaker Configurations		
First Breaker	Second Breaker	
H	H	J
J	H	J
XT5	H	J
XT6	H	J

Trip Curves for Circuit Breakers with Electronic Trip Units

XT5 Ekip Dip LSI
L-S-I Functions

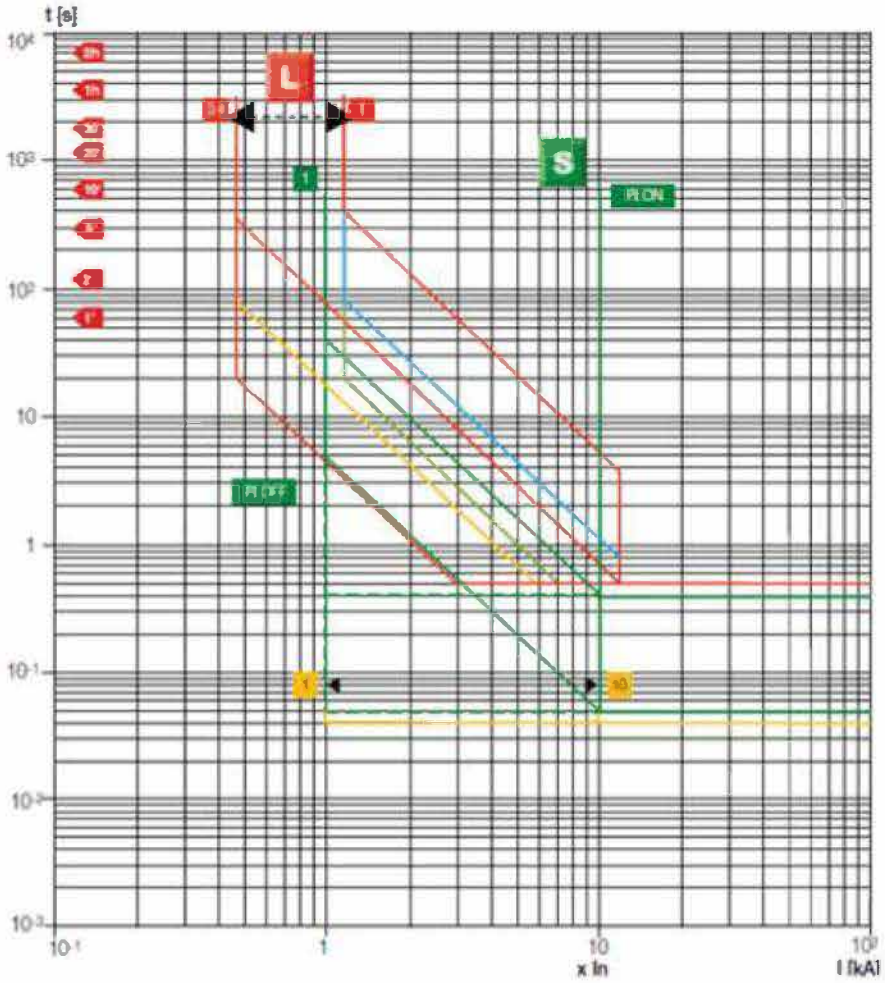


Figure 5

Image shown may not reflect actual package.

LED Lights

Features

AC/DC Lighting Kit

- Capable of AC and DC operation with provided selector switch
- DC operation has a 60-minute timer switch to limit battery drain
- AC operation is enabled by transformer
- Low voltage, low energy circuit and operation
- Installation includes one single LED light.

Technical Data	
Theoretical Lumens Output	1600 lm
Operational Lumens Output	1000 lm
Color Temperature	5700 K
Lens	PC
Body	Aluminum
Weight	0.6 kg
IP Rating	IP68, IP6K9K
EMC	CISPR 25 Class 3, EN 12895, ISO 13766, ISO 14982, ISO 7637-2
Operating Temperatures	-40°C to +85°C (Overheat protected)

Image shown may not reflect actual configuration.

20A Tamper-Resistant, Weather-Resistant GFCI Receptacles

Features and Benefits

- Automatically tests the GFCI every time the reset button is pushed in. The GFCI will not reset if the GFCI circuit is not functioning properly.
- By blocking reset of the GFCI if protection has been compromised, SmartLockPRO reduces the possibility of end-users incorrectly assuming that a reset GFCI outlet is providing ground fault protection when it actually is not.
- A line-load reversal diagnostic feature is provided which prevents the GFCI from being reset and stops power from being fed to the GFCI receptacle face or through to downstream devices. A green LED indicator on the GFCI's face also illuminates to alert the installer to the line-load wiring reversal.

Weather-Resistant GFCIs

- Meet UL 498 requirements for weather-resistant receptacles.

Tamper-Resistant GFCIs

- Shutter mechanism inside the receptacle blocks access to the contacts unless a two-prong plug is inserted, helping ensure foreign objects will be locked out.

Product Features

- Grounding: GFCI ground fault
- Feature: Weather and tamper-resistant
- Amperage: 20 Amp
- Voltage: 125 Volt
- NEMA: 5-20R
- Trip Level: Class A, 5mA plus or minus 1mA
- Pole: 2
- Wire: 3
- Color: White

Standards and Certifications

- NEMA: WD-6
- ANSI: C-73
- UL498: File E13399
- CSA C22.2 No. 42: File LR-57811
- NOM: 057
- UL 943: File E48380

Receptacles contained in a weather resistant box and in-use cover.

www.Cat-ElectricPower.com

Image shown may not reflect actual configuration.

Remote Emergency Stop Button

Features and Benefits

- Enclosure degree of protection – IP 69K (NEMA 6)
- UL Listed (NKCR)
- Assembled enclosure with shroud
- 40 mm mushroom emergency stop
- Twist release
- 2NC – horizontally mounted

Dimensions

- Net Width: 0.065 m
- Net Height: 0.078 m
- Net Depth: 0.065 m
- Net Weight: 0.124 kg

AIR CLEANERS

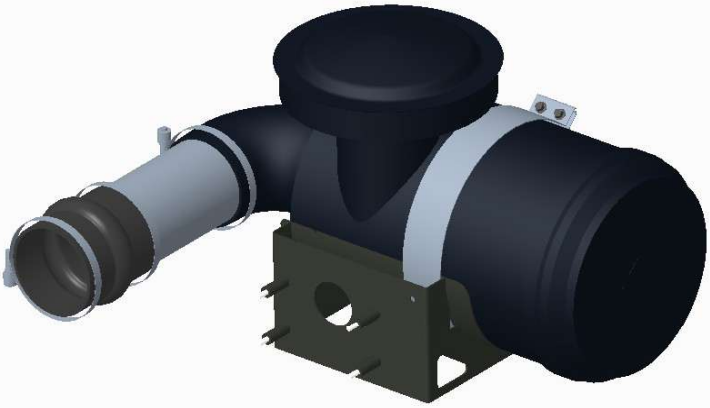


Image shown might not reflect actual configuration

AIR CLEANERS FOR

D40 GC – D200 GC ENGINES

GENERAL DESCRIPTION

Air Cleaner reduce contaminants flowing into the air intake system, provide a high level of Engine protection from harmful contaminants and increase engine performance and fuel efficiency.

Dual element air cleaners provide additional protection for the Engine

FEATURES

- Radial Seal Technology
- Easy to read CAT filter service indicator with manual reset#
- Standard Yellow Media
- Constant torque clamps
- Engine rear mounted filters with easy access to service filter to open and enclosed Gensets
- Air filters Designed for 250 hrs of service*

service indicator is available only with Canister element
*based on dust Concentration levels

Feature Code	Engine model	Dust Environment	Industry	Element	Housing
Dust Concentration level - 1mg/m3					
STD AIR	D40 GC – D60 GC	Standard Duty	Factory, Office	Canister	N-A
STD AIR	D80 GC – D200 GC	Standard Duty	Factory, Office	Non-Canister	N-A

Picture shown may not represent actual package.

Coolant Heater

(WHH / WHHH / WHHA / JWH0089)

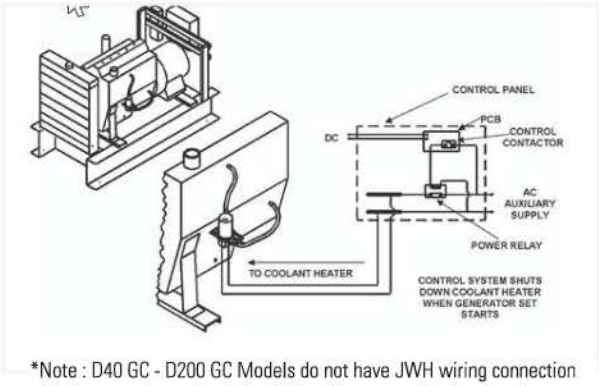
Appropriate when the generator set is to be sited in a low ambient environment, the heater maintains the engine coolant at a temperature [typically 38°C (100°F)] which facilitates rapid starting and load acceptance. The heater assembly uses UL compliant components (to UL1030) and has CSA certification which is to both CSA and UL Standards.

The heater itself is powered either by a 110/120 volt (VAC 120) for 60 Hz or 240V (VAC 240) for 50 Hz AC auxiliary supply protected by a safeguard breaker inside the main control panel. A thermostatic controller is included to regulate the output temperature to within safe limits. When the generator set is not running the heater is automatically connected to the AC supply through a power relay mounted in the control panel.

Upon receiving a start signal the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed and the engine has stopped*.

Features

- Molded from Polyphenylene Sulphide
- Rust free, corrosion resistant with exceptional tensile strength
- Vibration and shock tested to extreme limits to ensure durability
- Compatible with all coolant additives
- Incoloy element for longer service life



*Note : D40 GC - D200 GC Models do not have JWH wiring connection with the control panel and the JWH wiring connection is up to the customers..

VAC 120/240

Diesel Generator Set Engine Models	Nominal Coolant Heater Power Consumption (Watts)
C2.2, C4.4, C7.1	1000
C9, C13	1500
C15, C18	2500

Gas Generator Set Models	Nominal Coolant Heater Power Consumption (Watts)
DG40,DG45,DG50,DG60,DG70,DG80	1000
DG100, DG125, DG150	1800

Attachments

Image shown might not reflect actual configuration.

BATTERY CHARGER

The intelligent battery charger has been developed with safety, usability, optimised battery performance and maximum battery lifetimes in mind.

A comprehensive range of input and output protections ensures a continued safe charging environment also enabling the use of the charger as a power supply.

FEATURES

- Intelligent two, three and four stage charging profiles
- Configurable to suit most battery types (12V/24V)
- Adjustable current limit
- Can be used as a battery charger, power supply or both at the same time
- Automatic or Manual boost and storage charge functions to help maintain battery condition
- Digital Microprocessor Technology
- Temperature compensation for battery charging
- Low Output Ripple and superb line regulation
- Three LED Indicators
- AC input Under voltage
- AC input Over voltage
- Battery charger output Over voltage
- Battery charger output Over current
- Optional battery temperature compensation with over temperature protection
- Output short circuit and Inversion polarity with auto recovery
- Configurable charge termination
- UL1236 /UL1564 Compliant

Automatic Boost Mode
- Boosts and equalises cell charge improving battery performance and life

Power Save Mode
- Once the battery is fully charged the chargers switch to Eco-Power to save energy

Communication
- Can be integrated into external systems through MODBUS RTU using RS485
- Fully configurable via PC Software

BENEFITS

- Fully flexible to maximise the life of the battery
- Suitable for a wide range of battery types
- Switched mode design
- Minimum 86% efficiency throughout full operating range
- No external intervention for boost mode
- Multiple chargers can be linked together to provide larger current output
- Can be permanently connected to battery and mains (utility) supply. No need to disconnect through high load conditions.

SPECIFICATION

AC SUPPLY
VOLTAGE RANGE 90 V to 305 V (L-N)

FREQUENCY RANGE
48 Hz to 64 Hz (L-N)

DC OUTPUT RATING
10 A DC at 24 V DC

RIPPLE AND NOISE
<1%

EFFICIENCY
>86%

REGULATION LINE
<0.5%

LOAD
2%

TEMPERATURE SENSOR INPUT
PT1000

PROTECTIONS
Short Circuit
DC Over Voltage
DC Over Current
Reverse Polarity
Over Temperature
AC Under & Over Voltage

CHARGE FAILURE RELAY
3 A at 30 V DC volt free relay

DIMENSIONS OVERALL
70 mm x200 mm x 130 mm
2.7" x 7.9" x 5.1"

WEIGHT
0.75 kg

OPERATING TEMPERATURE RANGE
-30 °C to +80 °C
-22 °F to +176 °F

STORAGE TEMPERATURE RANGE
-30 °C to +80 °C
-22 °F to +176 °F

www.cat.com/electricpower

LEHE2022-03 (01/24)

Cat® Batteries

Cat® Batteries—Greater Starting Power—Lower Maintenance—Longer Life

Cat Premium High Output (PHO) batteries are used in all Cat Machines and Engine Gen-Sets. They are designed to meet stringent Caterpillar design specifications, which provide industry leading cold cranking amps (CCA) capability and maximum vibration resistance.

Maintenance Free Accessible or low maintenance designs are available in wet and dry configurations.

General Service Line batteries are available in Maintenance Free Accessible or low maintenance designs. Wide selections of BCI group sizes are available for automotive, light truck, bus, industrial, agricultural, marine, recreational and valve regulated (VRLA-AGM & Gel) applications.

CAT®

Cat® Batteries

World's Toughest Batteries

Premium High Output—Maximum Vibration Resistance

- Vibration Resistance...five times the Industry Standard
- Exclusive "flat top" BCI group 4D & 8D batteries are Maintenance Free Accessible and have the industries highest cold cranking amps (CCA)
- Popular BCI group 31 Maintenance Free Accessible batteries with industry leading cold cranking amps...up to 1000 (CCA), for electric power, machine or on-highway truck and bus applications. Deep cycle models are available for truck, marine or recreational usage

Specifications for Cat Premium High Output Batteries-Available Worldwide

BCI Group Size	Part No.	CCA =	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction Notes	Accessiblity - Fluid Level Check Hours	BCI Overall Dimensions Length In (mm)	Width In (mm)	Height In (mm)	Wet Lb (kg)	Nominal Weight Dry Lb (kg)	Nominal Acid to Fill Qt (liter)
8D	153-5720	1500	465	12	210	C/MFA	A - 1000	20.5 (520)	10.8 (275)	9.8 (248)	132 (59.9)	-	-
8D	101-4080	1400	400	12	190	LAC+	A - 1000	20.8 (527)	11.0 (279)	9.8 (248)	132 (59.9)	86 (39.0)	18.0 (17.0)
4D	153-5710	1400	425	12	200	C/MFA	A - 1000	20.5 (520)	8.6 (218)	9.8 (248)	119 (54.0)	-	-
4D	9X-9730	1300	400	12	190	LAC+	A - 1000	20.8 (527)	8.6 (218)	9.8 (248)	120 (54.0)	81 (36.8)	14.8 (14.0)
4D	153-5700	1125	305	12	145	C/MFA	A - 1000	20.5 (520)	8.6 (218)	9.8 (248)	101 (45.8)	-	-
4D	9X-9720	1000	275	12	140	LAC+	A - 1000	20.8 (527)	8.6 (218)	9.8 (248)	102 (45.8)	59 (26.8)	15.9 (15.0)
31	175-4390	1000	180	12	90	C/MFA/S	A - 1000	12.9 (329)	6.8 (172)	9.3 (236)	60 (27.2)	-	-
31	175-4370	825	190	12	100	C/MFA/S**	A - 1000	12.9 (329)	6.8 (172)	9.3 (236)	61 (27.2)	-	-
31	175-4360	710	185	12	100	C/MFA/S***	A - 1000	12.9 (329)	6.8 (172)	9.3 (236)	62 (28.1)	-	-
31/30H	115-2422	1000	170	12	90	C/MFA	A - 1000	12.9 (329)	6.8 (172)	9.5 (241)	63 (28.6)	-	-
31/30H	115-2421	950	170	12	90	C/MFA+	A - 1000	12.9 (329)	6.8 (172)	9.5 (241)	64 (29.1)	44 (20.0)	6.6 (6.2)
31/30H	9X-3404(1)	950	165	12	95/100	C/MF	NA	13.0 (331)	6.8 (172)	9.5 (241)	58 (26.3)	-	-
31/30H	3T-5760	750	165	12	95/100	C/MF	AV - 1000	13.0 (331)	6.8 (172)	9.5 (241)	56 (25.4)	-	-
65	230-6368	880	140	12	70	C/MF	NA	11.9 (304)	7.5 (191)	7.5 (191)	46 (20.9)	-	-
24	153-5656	650	110	12	52	C/MF	NA	11.0 (279)	6.9 (174)	9.0 (229)	39 (17.7)	-	-

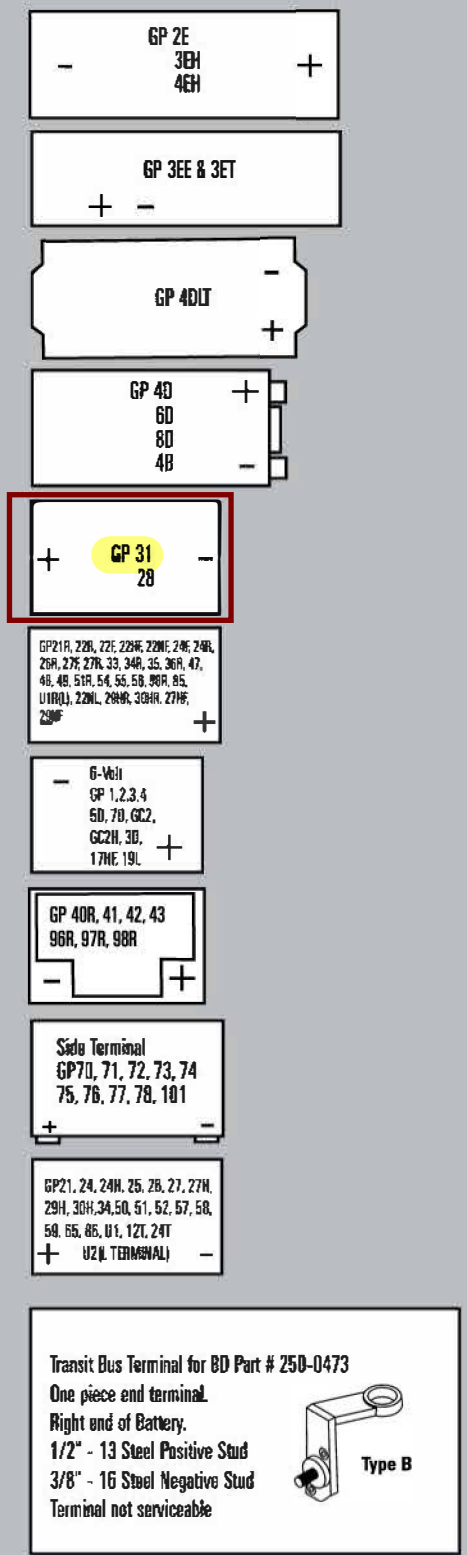
Construction Notes:
Batteries use SAE taper post design and are shipped wet except as:

- LAC = Low Maintenance - Hybrid Construction
- C = Calcium Lead Alloy Grid Design
- MF = Maintenance Free Non-Accessible
- MFA = Maintenance Free Accessible
- A = Accessible
- NA = Non-Accessible
- AV = Accessibly Varies - Accessibility varies depending on supplier used. If it has caps, it is accessible and fluid levels should be checked.
- S = Stud Terminals
- + = Shipped Dry Only
- * = Side Terminals Only
- ** = Starting and Deep Cycle Battery
- *** = Deep Cycle and Starting Battery
- = = Cold Cranking Amps for 30 seconds at 0° F (-18° C)
- † = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27°C)
- SDT = Dual, Top mounted Terminals - Stud and SAE Post. Marine Deep Cycle/ Starting Battery
- 1 = Available in EAME and China only

Rugged Design–Built Tough–Reliable Starting

- Positive and negative plates are anchored to container bottom and locked at the top of cell element for maximum vibration resistance.
- Heavy-duty forged terminal post bushings provide maximum strength and resistance to acid seepage.
- Hefty full-frame grids, no sharp edges, optimum acid/paste combination provides better charge acceptance after deep discharge.
- Manifold vented cover with built-in Flame Arrestor...a safety feature that directs corrosive gases away from the battery and hold-downs.
- Thick, robust container resists rugged treatment typical of heavy-duty commercial use. Embossed part number & descriptors for easy serviceability.

BCI Terminal Locations



Transit Bus Terminal for BD Part # 250-0473
One piece end terminal.
Right end of Battery.
1/2" - 13 Steel Positive Stud
3/8" - 16 Steel Negative Stud
Terminal not serviceable

Cat Premium High Output Batteries — Built Tough to Exceed Demanding Performance Test Requirements:

- **100 hour Vibration Testing – Five Times the Industry Standard**

  Battery must be able to withstand vibration forces without suffering mechanical damage, loss of capacity, loss of electrolyte or without developing internal/external leaks

  Battery must pass a high rate discharge test after the vibration testing

- **Five 72-hour Deep Discharge/Recharge Test Cycles**

  Battery must recover to 25 charging amps within 20 minutes and meet Industry Electrical Performance Standards

- **30 Day Complete Discharge Test**

  Battery must recover to 25 charging amps within 60 minutes and meet Industry Electrical Performance Standards after recharging

- **SAE J2185 Life Cycle Test**

  Battery subject to deeper discharge and charge cycles at extreme temperatures not normally encountered in starting a machine or vehicle

- **Cold Soak Test**

  Battery cold soaked at sub-freezing temperatures and then tested by starting an equally cold engine

Battery Accessories

Group 31 - Charging Posts for Stud Terminals - Part # 4C-5637
Screw-in Charging Posts for Side Terminals - Part # 4C-5638
Wing Nut - Part # 2B-9498 for Part #'s 175-4390/175-4370/175-4360/8C-3628
Wing Nut - Part # 3B-0723 for Part #'s 8C-3638 and 8C-3639
Booster Cable 12' (3.66 m) - Part # 4C-4911
Booster Cable 20' (6.00 m) - Part # 4C-4933
Heavy Duty Commercial Fast Charger (110V) - Part # 4C-4921
Heavy Duty Commercial Fast Charger (220V) - Part # 4C-4910

Note: Ratings and Part Numbers are subject to change without notice.

Recycle all scrap batteries.
We accept lead-acid batteries for recycling.

Marine Commercial Vessels
Maintenance Free Accessible 4D, 8D and Group 31 Batteries. General Service Line Line valve regulated (VRLA) Gel batteries. High Marine Cranking Amps (MCA) and Deep Cycling capabilities.

Marine Pleasure Craft
Premium High Output BCI Group 31, Dual Terminal Deep Cycle Batteries. General Service Line BCI group 24M, 27M and 8V sizes.

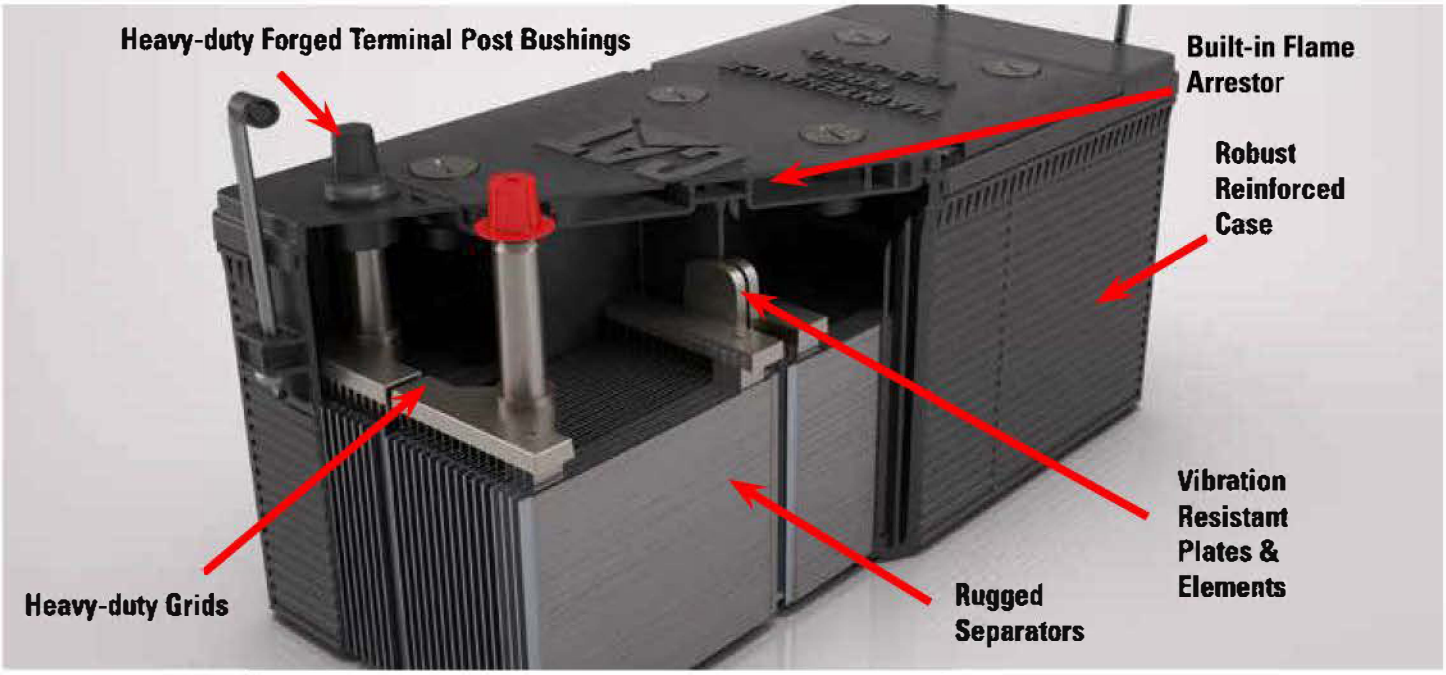
Automotive-Truck-Bus & RV
A wide selection of popular BCI group sizes. Maintenance Free Accessible, Severe Service and Deep Cycle models. Application Specific Group 31 Truck Batteries.

Electric Power Generation
Premium High Output Maintenance Free Accessible and Accessible batteries in BCI group 4D, 8D, & 31 sizes. High Cold Cranking Amp (CCA) Capability. General Service Line valve regulated (VRLA) GM batteries for UPS or stationary power applications.

Commercial & Recreational
A wide selection of premium batteries in most BCI group sizes for light commercial, recreational, agricultural and industrial applications.

Construction & Mining
Premium High Output Maintenance Free Accessible batteries. BCI group 4D, 8D and 31 Sizes. Industry leading cold cranking amps (CCA) and maximum vibration resistance.

Cat® Batteries



Robust Components = Long Life + Reliable Starts

- Heavy-duty forged terminal post bushings provide maximum strength and resistance to acid seepage that causes corrosion and black posts. Thicker internal terminal posts provide lower electrical resistance and higher cold cranking amp output.
- Rugged micro porous polyethylene envelope separators protect against "shorts" and vibration damage. Deep Cycle batteries utilize double insulated Glass mat separators for longer cycling life.
- Maintenance Free Accessible batteries utilize calcium lead alloy on both positive and negative plates that reduces gassing and water consumption. Automotive batteries have Silver (Ag) Calcium Alloy Grids for resistance to high underhood temperatures.
- Heavy-duty, full frame battery grids with no sharp edges. An optimum acid/paste combination provides better charge acceptance after a deep discharge.
- Positive and Negative plates are anchored to the container bottom and the cell element is locked at the top for maximum vibration resistance. Straps are thicker, heavier and cast (not welded) into the plates.
- Manifold vented cover with built-in Flame Arrestor…a safety feature that directs corrosive gases away from the battery and hold-downs.
- Robust reinforced case provides extra strength in all temperature extremes. Brickwork design on sides reduces chance of punctures and case flexing. Embossed part number and descriptors for easy serviceability.

CAT DEALERS DEFINE WORLD-CLASS PRODUCT SUPPORT.

We offer you the right parts and service solutions, when and where you need them.

The Cat Dealer network of highly trained experts keeps your entire fleet up and running to maximize your equipment investment.

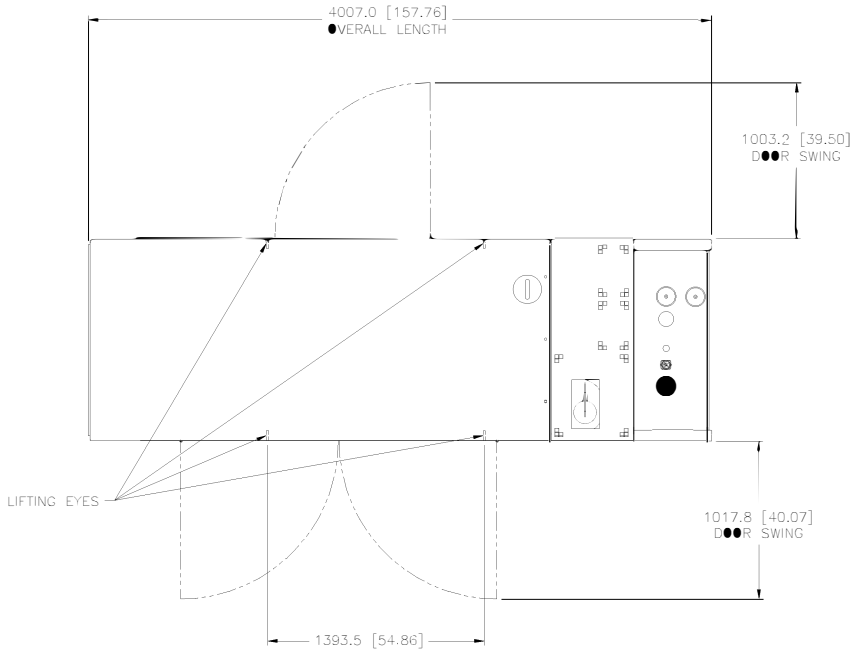
PEHJ0073-03
www.cat.com

Estimated DRY Weight Includes: Gen – Enc - Tank = 8,494 lbs.

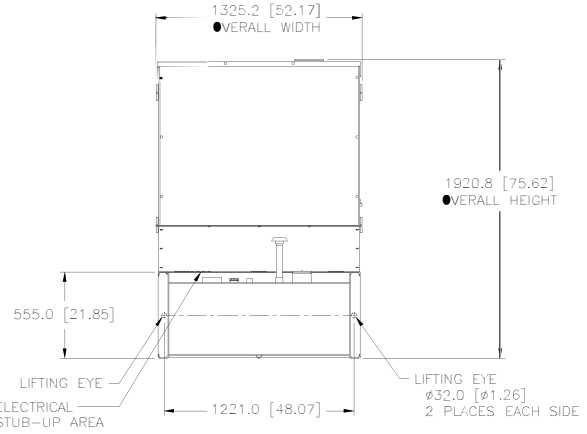
METRIC 610-4588

QTY	ENGINE CONNECTIONS	SIZE	SHEETS
1	EXHAUST	ø127.0 [ø5.00] OD	2
1	FUMES DISPOSAL HOSE	ø25.4 [ø1.00] ID	3
1	COOLANT DRAIN	13/16-16 THD	3

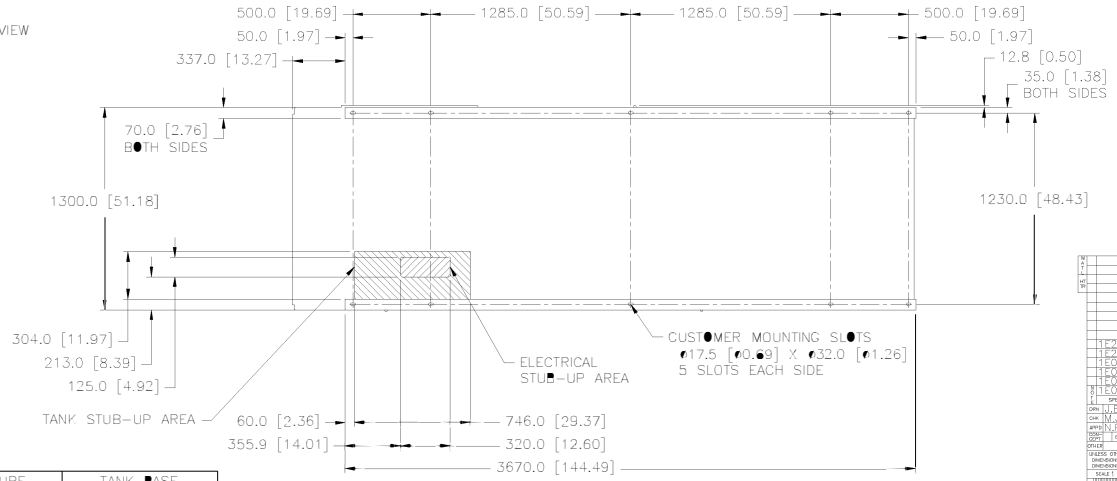
QTY	TANK CONNECTIONS	SIZE	SHEET
1	FUEL LEVEL SWITCH	1-1/2" NPTF	4
1	VENT	1-1/4" NPT	4
1	VALVE	4-8 NPTF THD	4
1	FUEL RETURN	3/4-16 THD	4
1	FUEL SUPPLY	3/4-16 THD	4



TOP VIEW



FRONT VIEW



FOOTPRINT
(DIMENSIONED OUTLINE VIEW FROM ABOVE)
(RIGHT SIDE ORIENTATION)

PACKAGE LIFTED IN 4 PLACES ON TANK

PACKAGE SHOWN WITH MORE DETAIL ON FOLLOWING SHEETS

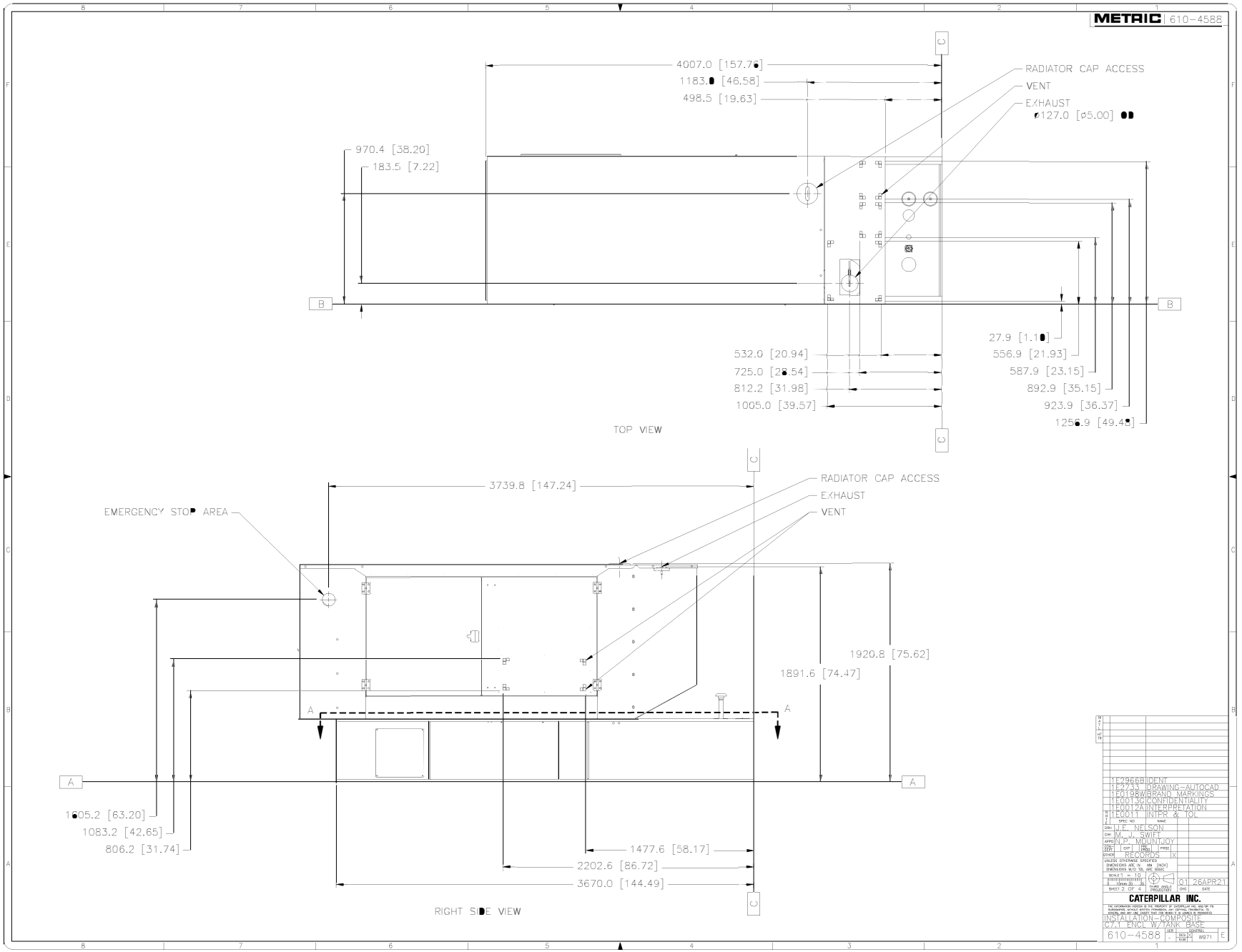
MODEL	TYPE	PRICING AR	ENCLOSURE	TANK BASE
C7.1	–	LS-4238 CHG 00	LS-4330 CHG 00	LS-4267 CHG 00
		LS-4239 CHG 00		
		LS-4240 CHG 00	LS-4331 CHG 00	
		LS-4241 CHG 00		

1E2966R IDENT
1E2733 DRAWING-AUTOCAD
1E0198W BRAND MARKINGS
1E0013G CONFIDENTIALITY
1E0012X INTERPRETATION
1E0011 INTPR & TOL

CAPTERPILLAR INC.

INSTALLATION-COMPOSITE
C7.1 ENCL W/TANK BASE
610-4588

Estimated DRY Weight Includes: Gen – Enc - Tank = 8,494 lbs.



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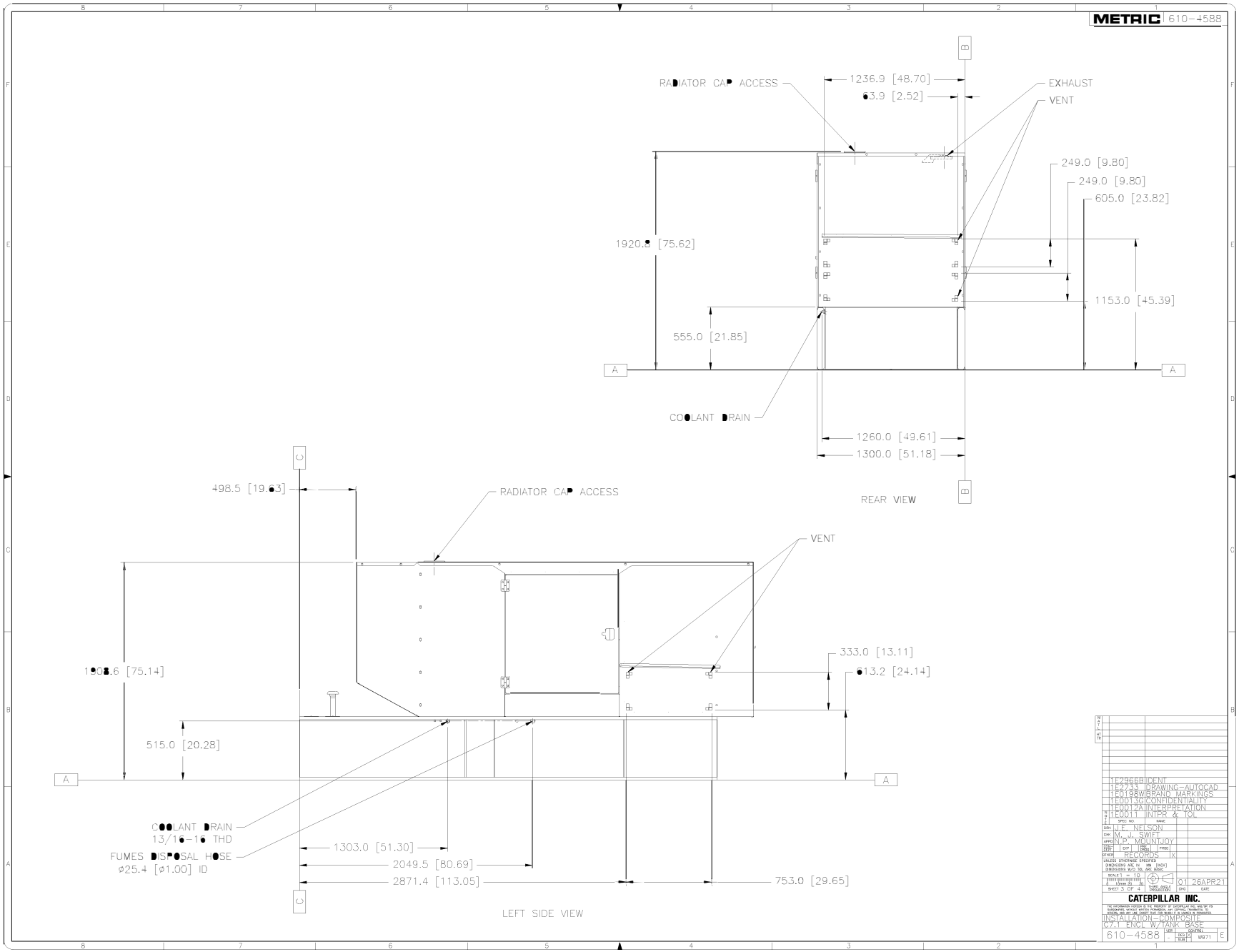
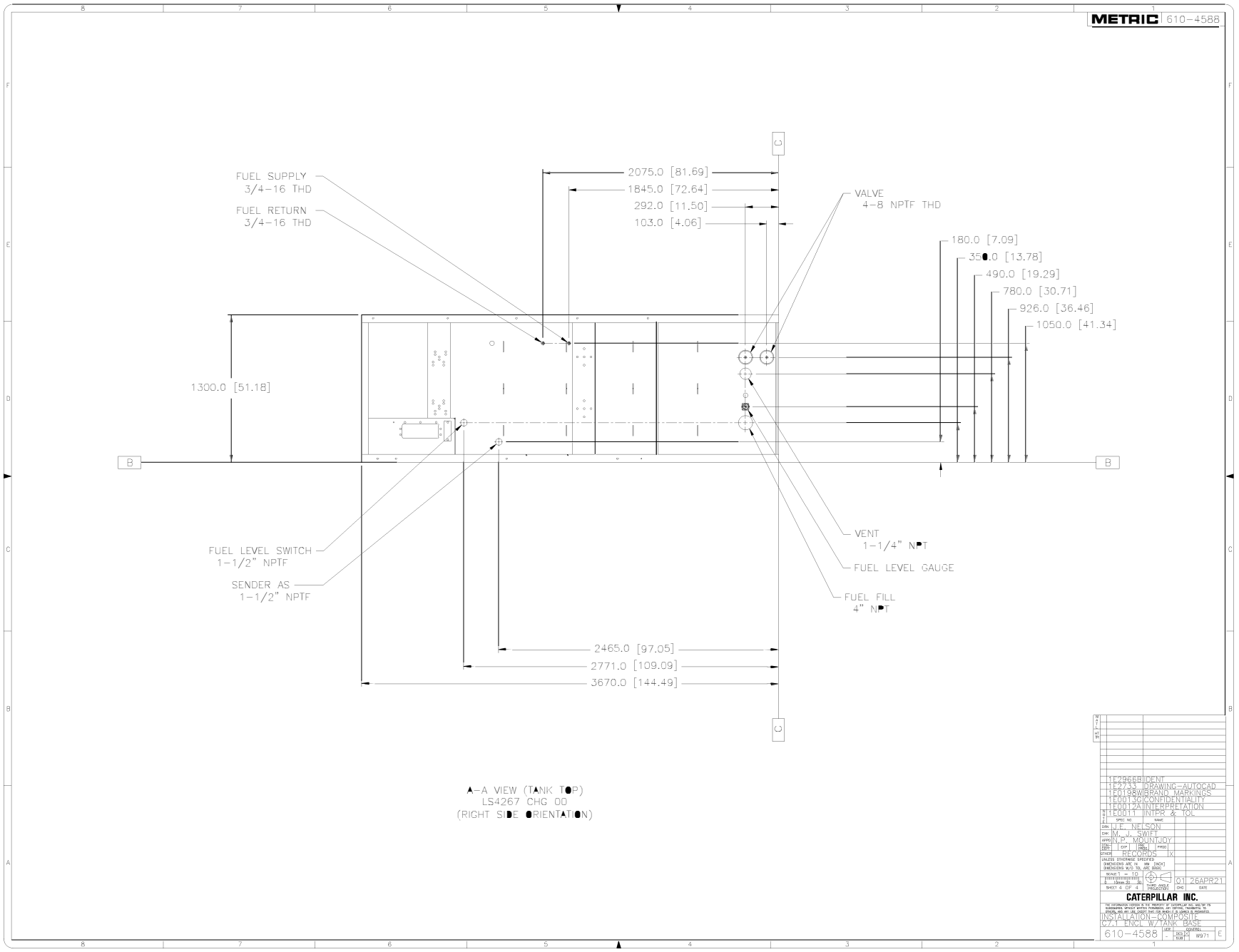


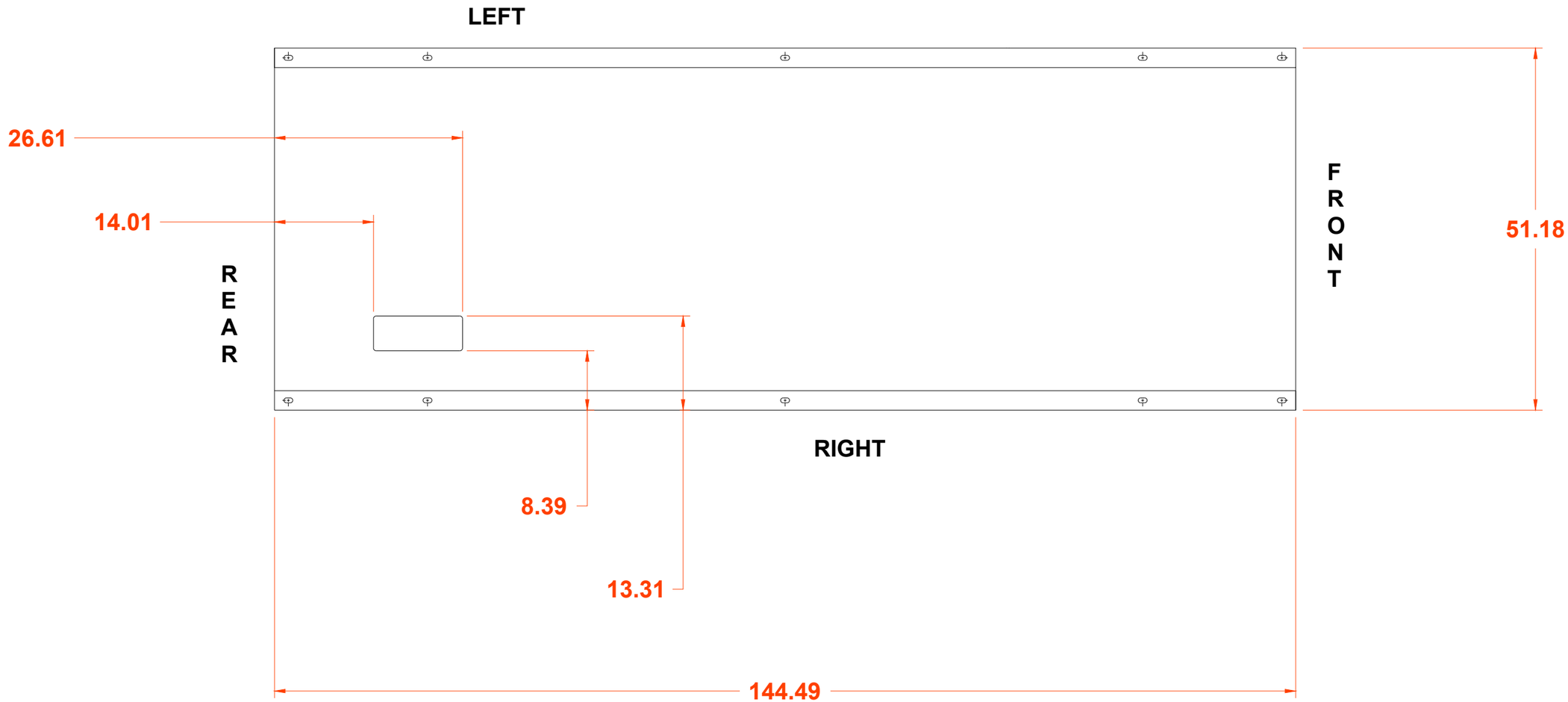
Estimated DRY Weight Includes: Gen – Enc - Tank = 8,494 lbs.



Estimated DRY Weight Includes: Gen – Enc - Tank = 8,494 lbs.

TOP VIEW ELECTRICAL STUB-UP

USE THIS (TANK ONLY) DRAWING WHEN LAYING OUT CONDUIT



DATE	REVISION DESCRIPTION	NO.

MIDWEST ENGINES AND GENERATORS

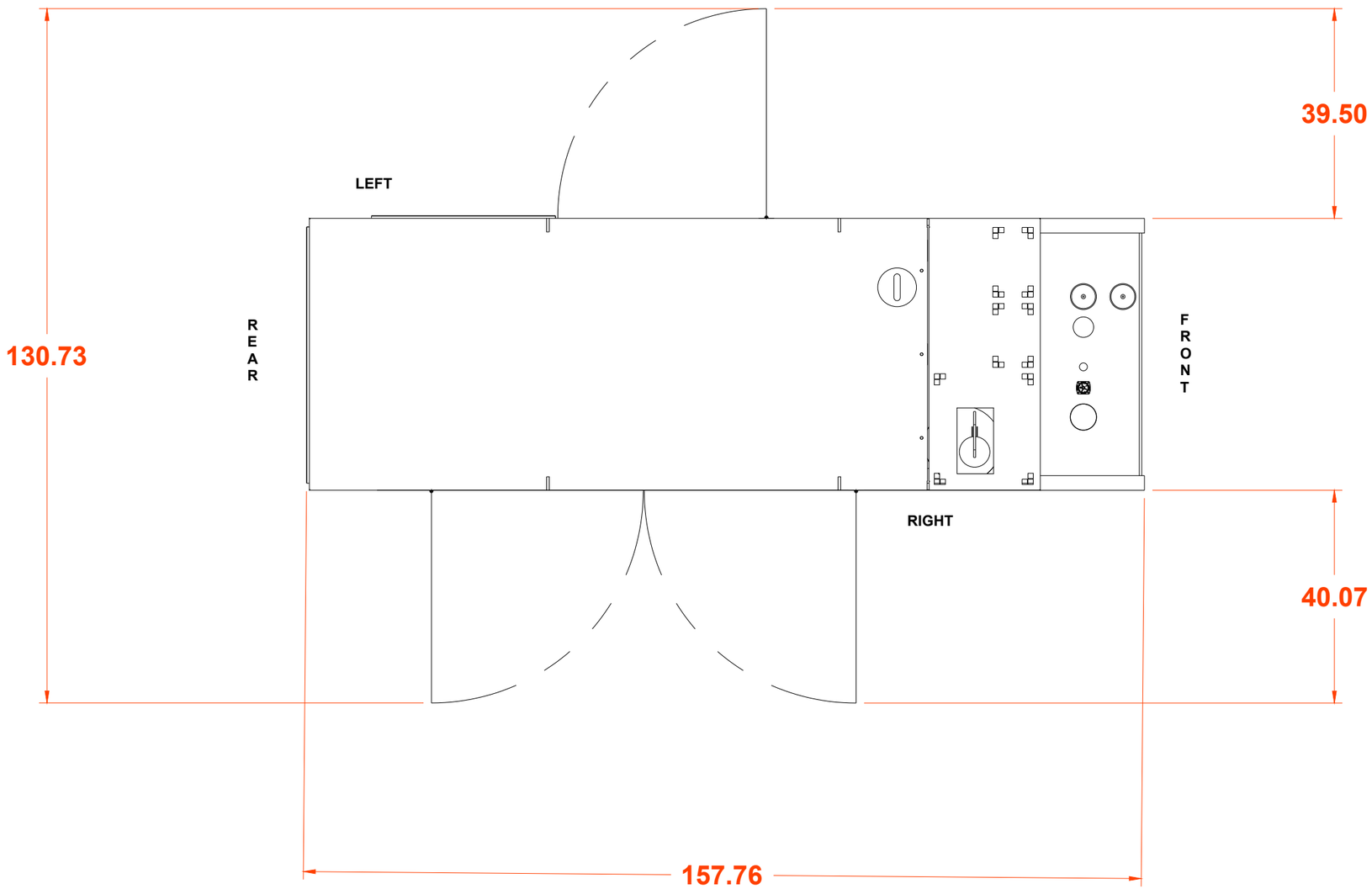
C7.1-200KW / SA ENC / INTEGRAL TANK

Thompson Energy Solutions

1245 Bridgestone Blvd - LaVergne, TN 37086

DRAWN BY:	DATE:	SCALE:	PO / SUBMITTAL ID:	CAT DRAWING SET NO.	ASSET ID:
JODI SWANNER	5/8/2026	3/4" = 1'-0"	TES-001268	6104588	88451

DOOR SWING VIEW



DATE	REVISION DESCRIPTION	NO.

MIDWEST ENGINES AND GENERATORS

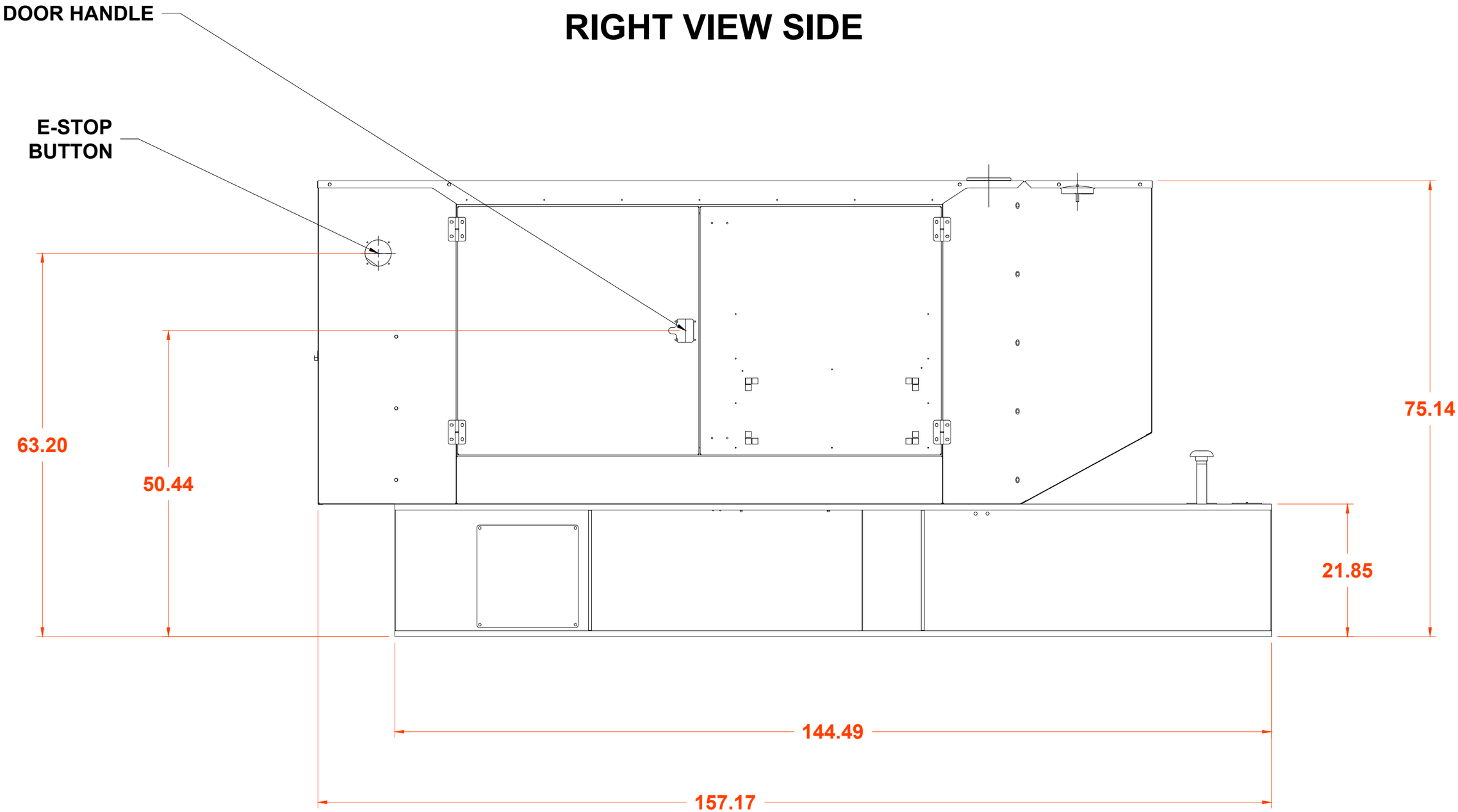
C7.1-200KW / SA ENC / INTEGRAL TANK

Thompson Energy Solutions

1245 Bridgestone Blvd - LaVergne, TN 37086

DRAWN BY:	DATE:	SCALE:	PO / SUBMITTAL ID:	CAT DRAWING SET NO.	ASSET ID:
JODI SWANNER	5/8/2026	1/2" = 1'-0"	TES-001268	6104588	88451

RIGHT VIEW SIDE



DATE	REVISION DESCRIPTION	NO.

MIDWEST ENGINES AND GENERATORS

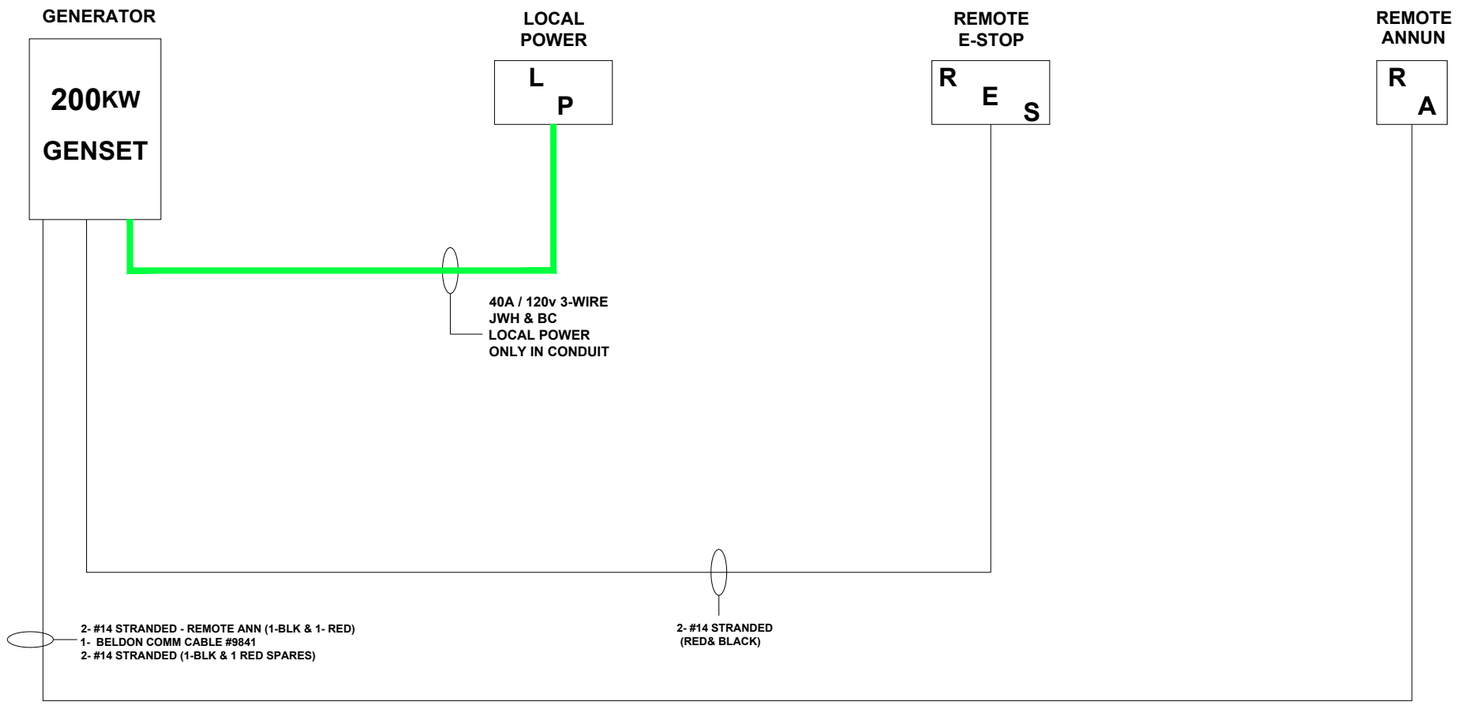
C7.1-200KW / SA ENC / INTEGRAL TANK

Thompson Energy Solutions

1245 Bridgestone Blvd - LaVergne, TN 37086

DRAWN BY:	DATE:	SCALE:	PO / SUBMITTAL ID:	CAT DRAWING SET NO.	ASSET ID:
JODI SWANNER	5/8/2026	3/4" = 1'-0"	TES-001268	6104588	88451

WIRE PULL for: Midwest Engines and Generators



DATE	REVISION DESCRIPTION	NO.

MIDWEST ENGINES AND GENERATORS

200KW - E-STOP - REMOTE ANNUNCIATOR

Thompson Energy Solutions

1245 Bridgestone Blvd - LaVergne, TN 37086

DRAWN BY:	DATE:	SCALE:	PO / SUBMITTAL ID:	CAT DRAWING SET NO.	ASSET ID:
JODI SWANNER	5/8/2026	DO NOT SCALE	TES-001268		88451

THIS DIAGRAM IS FOR GC GENSET MODELS (60kW to 200kW)
FOR USE WITH C4.4 & C7.1 ENGINES
GCCP 1.2 CONTROLLER

SIGNAL NAMES

CIRCUIT_ID	COLOR	DESCRIPTION
01	WH	NEGATIVE_RUN/STOP
101	RD	UNSWITCHED_BTRY (+)
105	WH	ECM_KEY_SW_(FUSED_25A)
109	WH	BTRY (+)_(FUSED_30A)
10	RD	AVR_X2_TO_GENERATOR_T12
10A	WH	POSITIVE_RUN_STOP
11	WH	AUX_CONTACT_COMMON
12	WH	AUX_CONTACT_NC
123	WH	PLG_BTRY_(+)_(FUSED_5A)
14	WH	AUX_CONTACT_NO
14	WH	PMG_A_PHASE_TO_AVR_X2
148	WH	ELR_BTRY (+)_(FUSED_2A)
15	WH	PMG_B_PHASE_TO_AVR_X1
16	WH	PMG_C_PHASE_TO_AVR_Z2
17A	WH	ENCLOSURE_ESTOP_#11_TO_E-C1_#1
17C	WH	ESTOP_LINK
200	GN-YL	MAIN_CHASSIS_GROUND
209	WH	BTRY (-)
21	WH	AUX_CONTACT_COMMON
22	WH	AUX_CONTACT_NC
229	WH	END_FOR_ANALOG_INPUTS
24	WH	AUX_CONTACT_NO
244	WH	EMER_STOP_SW_#22_TO_A-C10_#2
245	WH	A-C10_#1_TO_EMER_STOP_A_TERMINAL
246	WH	EMER_STOP_SW_#32_TO_#21
247	WH	EMER_STOP_SW_#31_TO_CONTROLLER_#3
6	WH	ECM_#18_BTRY (-)_TO_ECR_#86
5	WH	ENCLOSURE_ESTOP_#22_TO_E-C1_#2
5+	RD	GENERATOR_EXCITER_(+)
6-	BK	GENERATOR_EXCITER_(-)
629	WH	REMOTE_START_CONTROLLER_#42
9	RD	AVR_X1_TO_GENERATOR_T7
95	BK	AUX_CONTACT_COMMON
851	WH	PLG_MODBUS_A_TO_CONTROLLER_#52
851	DU	BATT_CHRG_BSENET_SCR_TO_CONTROLLER_#28
852	BK	PLG_MODBUS_B_TO_CONTROLLER_#51
852	GN	BATT_CHRG_BSENET_B_TO_CONTROLLER_#26
853	DU	PLG_MODBUS_SCR_TO_CONTROLLER_#50
853	YL	BATT_CHRG_BSENET_A_TO_CONTROLLER_#27
854	WH	ANNUNCIATOR_MODBUS_A
855	BK	ANNUNCIATOR_MODBUS_B
856	DU	ANNUNCIATOR_MODBUS_SCR
86	BK	AUX_CONTACT_NC
88	BK	AUX_CONTACT_NO
A309	WH	AHR_#A1_TO_CONTROLLER_#8
A466	WH	ELR_#14_TO_ENC_LIGHT_EL-C1_#1
AC101	WH	120VAC_(FUSED_20A)_TO_GFCI_#LINE
AC202	WH	120VAC_(FUSED_15A)_TO_BATT_CHRG_#L
AC199	WH	SHORE_POWER_NEGTRAL
AC779	WH	120VAC_(FUSED_6A)_TO_AHR_#12
CL	WH	SHUNT_TRIP
E2	WH	SHUNT_TRIP
D_POS	WH	CHARGER_ALTERNATOR_EXCITATION
E486	WH	SENSING_V_-_PHASE_A
E487	WH	SENSING_V_-_PHASE_B
E488	WH	SENSING_V_-_PHASE_C
E494	WH	CT_V_-_PHASE_A
E495	WH	CT_V_-_PHASE_B
E496	WH	CT_V_-_PHASE_C
E498	WH	CT_RTN_COMMON
E409	WH	SENSING_V_NEUTRAL
E434	WH	GEN_PHASE_A
E435	WH	GEN_PHASE_B
E436	WH	GEN_PHASE_C
F5	WH	AVR_BF-
F6	WH	AVR+BF+
L1	BK	GENERATOR_L1_PHASE
L2	BK	GENERATOR_L2_PHASE
L3	BK	GENERATOR_L3_PHASE
LINK	WH	ENCLOSURE_ESTOP_LINK
N	BK	GENERATOR_NEUTRAL
N756	WH	ALM_HORN_(+)
P733	WH	ANLG_INP_1_(+)
P958	WH	DISCRETE_OUT_9
P959	WH	DISCRETE_OUT_10
U	RD	AVR_SENSING
V	RD	AVR_SENSING
W	RD	AVR_SENSING
WFR	WH	WATER_IN_FUEL_RETURN
WFS	WH	WATER_IN_FUEL_SWITCH
X960	WH	ECP_#87_STARTER_MAG_SW
Y797	WH	ENG_J1939_DATALINK_+
Y798	BK	ENG_J1939_DATALINK_-
Y799	DU	ENG_J1939_DATALINK_SHLD
Y983	WH	LOW_COOLANT_LEVEL_TO_CNTRL_#43
Y984	WH	FUEL_LEVEL_TO_CNTRL_#44
Y985	WH	ENCLOSURE_LIGHT_SW_TO_CNTRL_#46
YGN	GN/YL	GENERATOR_GND

WIRE NAME DEFINITION

XXXX-XX# XX-XX

- WIRE GAUGE
- WIRE COLOUR
- WIRE NUMBER
- HARNESS IDENT
- CIRCUIT IDENT

COLOUR ABBREVIATIONS

ABBREVIATION	DESCRIPTION
RD	RED
WH	WHITE
OR	ORANGE
YL	YELLOW
PK	PINK
BK	BLACK
GY	GREY
TQ	TURQUOISE
BR	BROWN
GN	GREEN
BU	BLUE
CU	COPPER
GN-YL	GREEN-YELLOW

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
AC	ALTERNATING CURRENT
AHR	ALTERNATOR HEATER RELAY
AVR	AUTOMATIC VOLTAGE REGULATOR
BATT	BATTERY
CR	CONTROL RELAY
DC	DIRECT CURRENT
ECM	ENGINE CONTROL MODULE
ECR	ENGINE CRANK RELAY
ELR	ENCLOSURE LIGHTS RELAY
E-STOP	EMERGENCY STOP
FCR	FUEL CONTROL RELAY
FLS	FUEL LEVEL SENDER
GFR	GENERAL FAULT RELAY
GND	GROUND
GRR	GENERATOR RUNNING RELAY
LCL	LOW COOLANT LEVEL
MCB	MINIATURE CIRCUIT BREAKER
OF	AUXILIAR SWITCH
PMG	PERMANENT MAGNET GENERATOR
Q/1	AUXILIAR SWITCH
SD	ALARM SWITCH
STR	SHUNT TRIP RELAY
SY	ALARM SWITCH
TERM	PANEL TERMINAL
VFC	VOLT FREE CONTACT

SYMBOL LEGEND TABLE

	MINIATURE CIRCUIT BREAKER
	EMERGENCY STOP PUSHBUTTON
	FUSED AUTOMOTIVE RELAY
	RESISTOR
	EARTH/GROUND
	CURRENT TRANSFORMER
	PANEL TERMINAL
	TERMINAL
	CONNECTOR
	BATTERY
	SPLICE
	WIRE
	SCREEN CABLE
	FUSE

INDEX TABLE

SHEET INDEX	DESCRIPTION
1	CROSS REFERENCE SHEET INDEX NOTES
2	CONTROL SCHEMATIC
3	POWER SCHEMATIC
4	POWER SCHEMATIC (SINGLE PHASE)
5	ADDITIONAL OPTIONS
6	AC OPTIONS
7	ADDITIONAL INFORMATION

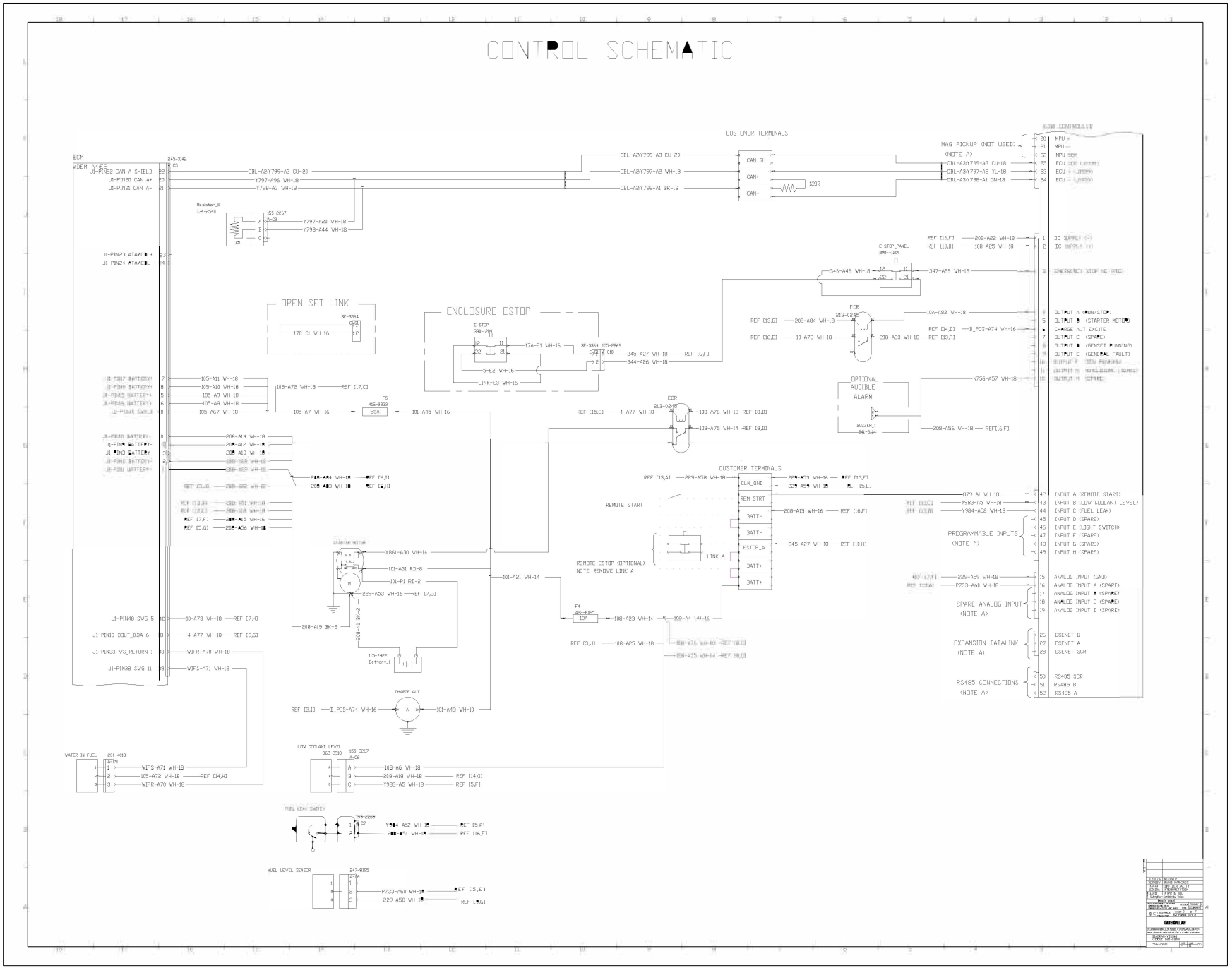
HARNESS LAYER TABLE

IDENT	PART NO	CHG	LOC	DESCRIPTION	NOTE
HARNESS AC:	-	-	-	-	-
S	596-3201	01	H2	D125-D200 MAIN HARNESS	-
A	598-3162	01	H2	D60-D100 MAIN HARNESS	-
AN	578-6063	01	H5	ANNUNCIATOR HARNESS	-
AX	565-3686	00	H5	AUX CONTACTS AND SHUNT TRIP	-
B	577-8425	01	H5	PLG 6418&601 MODBUS HARNESS	-
E	596-1978	00	H2	E-STOP LINK (OPEN SET)	-
ED	605-6916	00	H6	GFCI HARNESS	-
E	596-1958	03	H2	E-STOP HARNESS (ENCLOSED SET)	-
EL	605-9468	00	H5	ENCLOSURE LIGHTS HARNESS	-
EB	604-4015	00	H6	BATTERY-CHARGER HARNESS	-
HR	605-8326	00	H6	SHORE POWER L1 LINK	-
GX	605-1114	00	H5	GENSET RUNNING & COMMON ALARM	-
PG	443-8637	01	H3	PMG ADAPTOR HARNESS	-
PM	604-4016	00	H3	PMG ADAPTOR HARNESS	-
SL	604-4028	00	H6	ALTERNATOR SPACE HEATER HARNESS	-
T	577-3938	01	H5	PLG 6418&601 POWER SUPPLY	-
V	586-4361	00	H5	PLG 6418&601 CAN HARNESS	-
					-
WIRE AC:/CABLE AC:	-	-	-	-	-
4	-	-	H2	BATTERY NEGATIVE	-
5	-	-	H2	BATTERY POSITIVE	-

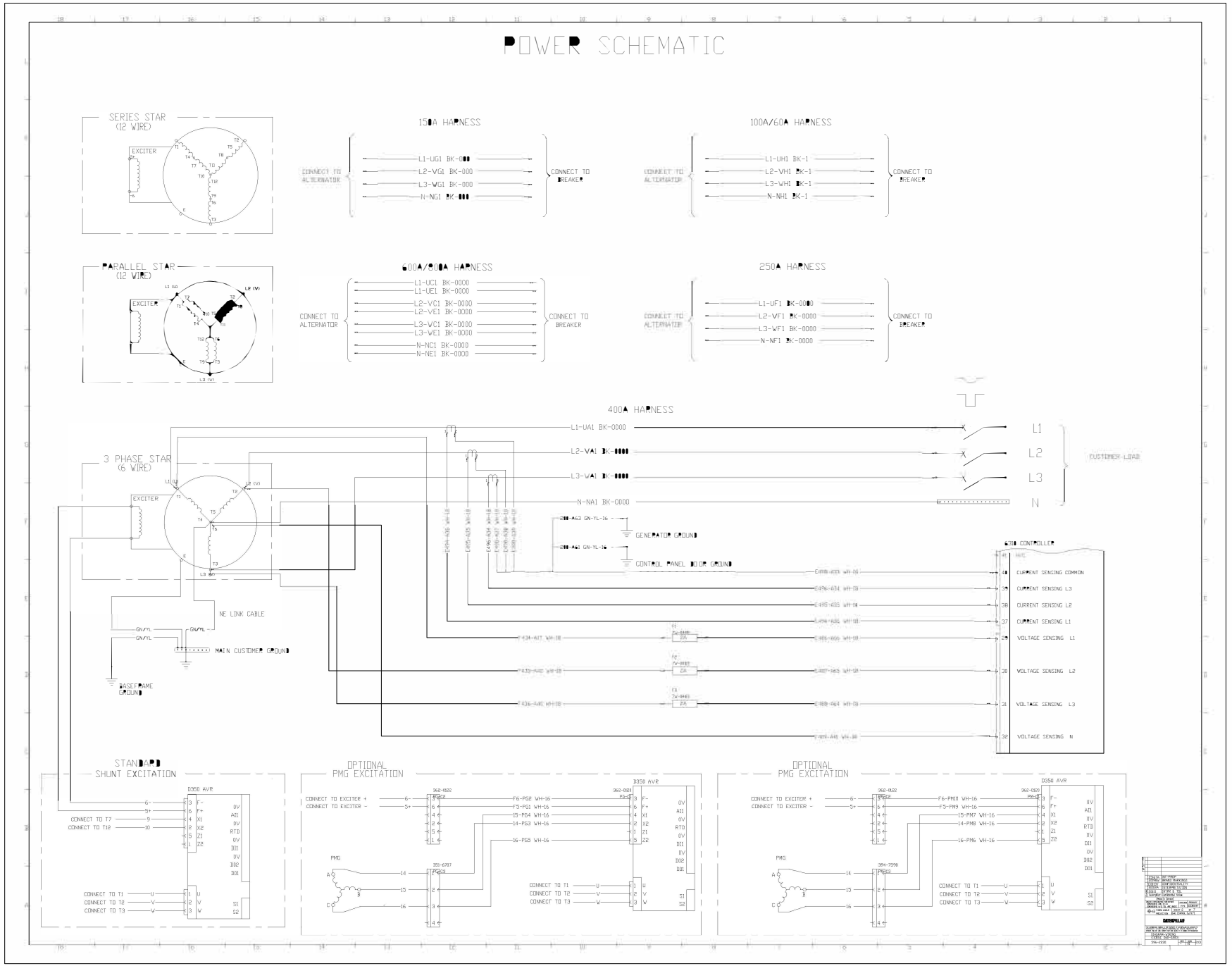
NOTE 4: FACTORY WIRING NOT PROVIDED AS STANDARD. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS.

NOTE 8: RESISTOR TO BE REMOVED IF ADDITIONAL EXPANSION MODULES ARE CONNECTED.

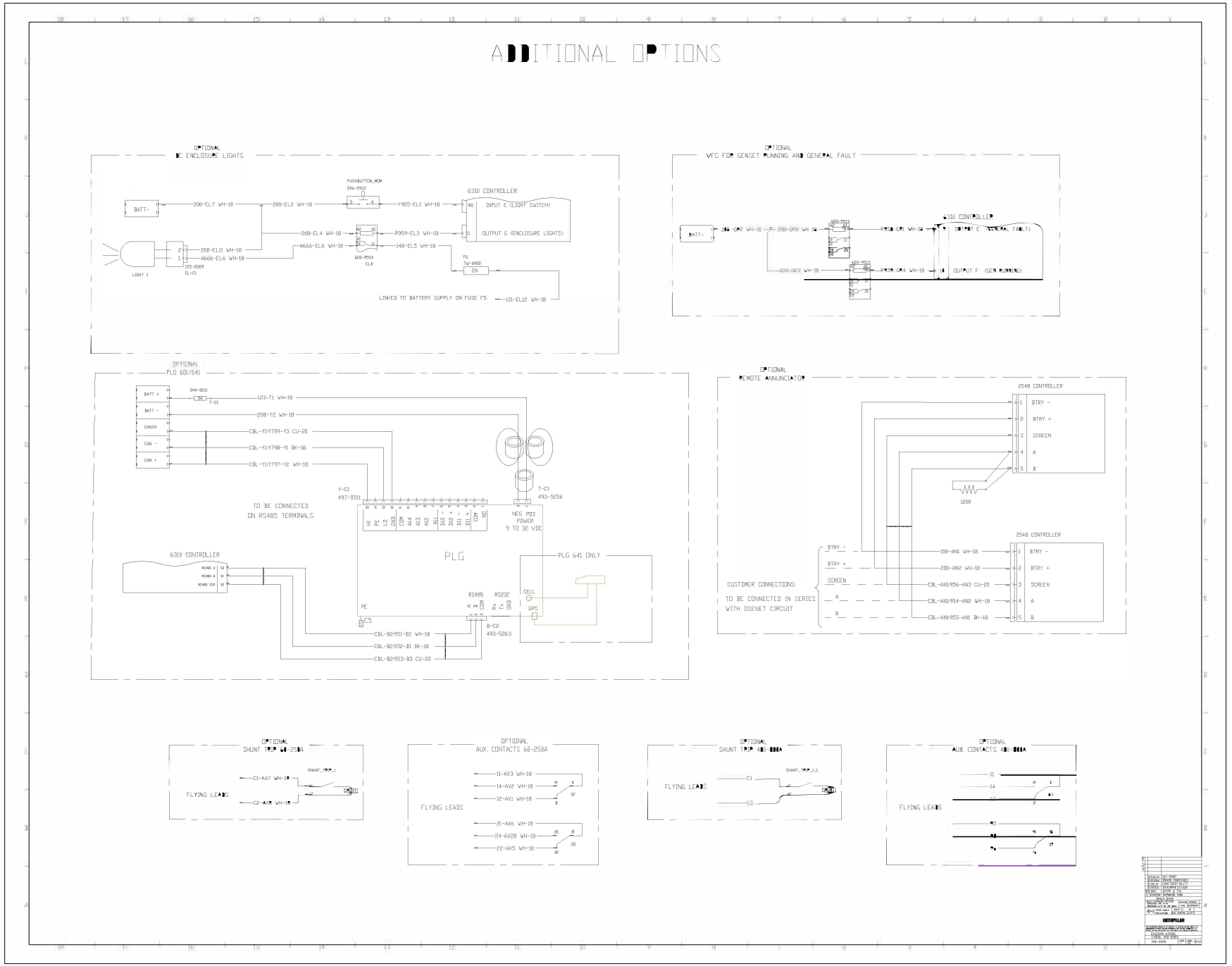
CAT Schematics

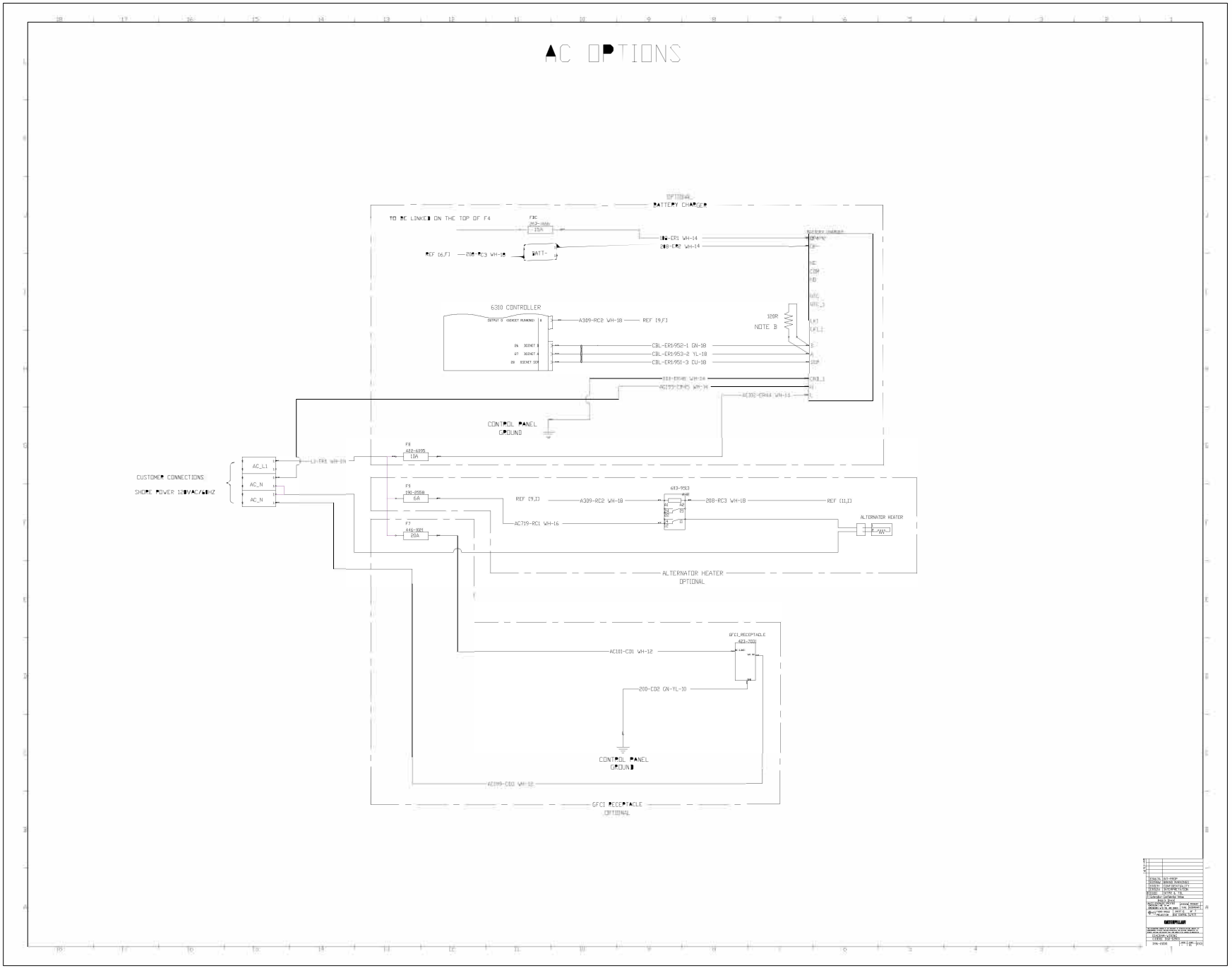


CAT Schematics



CAT Schematics




AC OPTIONS
OPTIONAL
BATTERY CHARGER
TO BE LINKED ON THE TOP OF F4
F3C
BATT-
6310 CONTROLLER
128R
NOTE B
CONTROL PANEL
GROUND
CUSTOMER CONNECTIONS
SHORE POWER 120VAC/60HZ
AC_L1
AC_N
AC_N
F8
F9
F7
ALTERNATOR HEATER
OPTIONAL
GFCI_RECEPTACLE
CONTROL PANEL
GROUND
GFCI RECEPTACLE
OPTIONAL

ADDITIONAL INFORMATION - COMPONENT DETAILS & CUSTOMER CONNECTIONS

MAIN CUSTOMER RAIL (OPTIONS INCLUDED)

COMPONENT	DESCRIPTION
AHR	ALTERNATOR SPACE HEATER RELAY
F7	GFCI FUSE (20A)
F8	BATTERY CHARGER FUSE (10A)
F9	ALTERNATOR HEATER FUSE (6A)

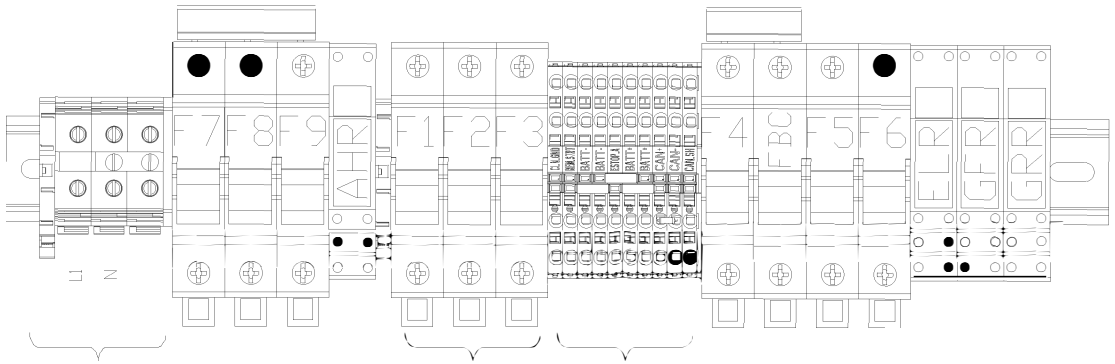
FUSE ID	CURRENT RATING	WIRE ID	DESCRIPTION
F4	10A	101; 108	PANEL SUPPLY
F8	15A	101; 108	BATTERY CHARGER
F5	25A	101; 105	ECM POWER
F6	2A	148; 101	ENCLOSURE LIGHTS

RAIL	CURRENT RATING	DESCRIPTION
GFR	8A	GENERAL FAULT RELAY
GRR	8A	GENSET RUNNING RELAY
ELR	8A	ENCLOSURE LIGHTS RELAY

DC FUSES

DC FUSES

RELAY VFC CONNECTIONS



SHORE POWER 120VAC/60HZ CONNECTION

AC FUSES

CUSTOMER TERMINALS

COMPONENT	DESCRIPTION
L1	SHORE POWER AC SUPPLY LINE
N	SHORE POWER AC SUPPLY NEUTRAL

FUSE ID	CURRENT RATING	WIRE ID	DESCRIPTION
F1	2A	F434; E4[illegible]	L1 SENSING AC
F2	2A	F435; E4[illegible]7	L2 SENSING AC
F3	2A	F43[illegible] E488	L3 SENSING AC

TERMINAL ID	WIRE ID	DESCRIPTION
CLN_GND	229	CLEAN GROUND FOR ANALOG INPUTS
REM_STRT	379	REMOTE START INPUT
BATT-	208	BATTERY NEGATIVE
BATT-	208	BATTERY NEGATIVE
ESTOP_A	345	GENSET CONTROLLER ESTOP INPUT
BATT+	108	BATTERY POSITIVE (10A FUSED)
BATT+	108	BATTERY POSITIVE (10A FUSED)
CAN+	Y797	CAN + COMMS
CAN-	Y798	CAN - COMMS
CAN_SH	Y799	CAN SH COMMS

Concrete Pad Recommendation

Midwest Engines and Generators (200kw) - SA Enclosure and 358g Tank

Gen-Set Footprint		CAT Recommended Border in Feet		Gen-Set	Encl & tank	Tank Cap.	Fuel	Total Weight	Pad	Pad
Length (ft.)	Width (ft.)	Side	End	Weight	Weight	Gallons	Weight	weight	Thickness (ft.	Thickness (inches)
13.08	4.5	1	1	3,917	2,228	399	2832.9	8,978	0.61	7
										Results shown here

Overall Recommended Pad Dimensions

Length	Width
15.08	6.5

"Width" above does not include Door Swing

Add 40" to the Left Side for Door Swing

Add 40" to the Right Side for Door Swing

NOTE:

Thompson Power is not trained in the correct application of steel reinforcement of concrete slabs.

These are recommendations only.

Proper design should be submitted and approved by the proper engineering authorities.

COVERAGE WITHOUT INTERRUPTION

Extended Service Coverage (ESC)

GENERATOR SETS & ELECTRIC POWER SYSTEMS

Your operation depends on reliable power. That's why you trust Cat® electric power systems. With Cat Financial Insurance Services, you get service coverage that's just as durable and long-lasting—so you can spend less time managing your equipment and more time running your business. ESC for prime and standby generator sets, switchgear, automatic transfer switches (ATS), uninterruptible power supplies (UPS) and engine paralleling and integration controls (EPIC) is built to protect your investment and your peace of mind.

BUILT FOR IT.

CAT® Financial

A VARIETY OF COVERAGE OPTIONS

- New ESC: coverage for new generator sets, switchgear, ATS, UPS and EPIC
- Advantage ESC: coverage for used generator sets, switchgear, ATS, UPS and EPIC
- Overhaul Protection for Commercial (OPC) ESC: coverage for overhauled generator sets

ESC BENEFITS

- Protect your investment with coverage for parts and labor expense on covered components (less any applicable deductible)
- Avoid unexpected repair costs caused by unscheduled repairs
- Budget for unexpected repairs and lock in costs up front
- Make sure repairs are done right the first time with factory-trained technicians using genuine Cat parts
- Return your electric power systems to their original operating specifications, meeting all requirements for safe use and environmental compliance
- Combine ESC with a Customer Support Agreement for complete maintenance and repair protection

WHY ESC?

- **GLOBAL COVERAGE**: Our ESC is available wherever you are, for all your ESC coverage and service needs. It's true global service with no zones or territory restrictions.
- **LOCAL EXPERTISE**: Trained technicians at more than 2,500 Caterpillar authorized service locations have the experience, training and tools to repair your engine quickly and accurately.
- **EASE OF DOING BUSINESS**: Our pricing terms are simple, and you can customize coverage options to fit your individual needs.
- **PEACE OF MIND**: When you choose ESC, you can be confident knowing your investment is protected by the power of Caterpillar.
- **HISTORY OF PROTECTION**: Your Cat dealer is backed by Cat Financial–together, we've been providing product support with ESC programs to electric power customers since 1986.

For more details, contact your local Cat dealer about ESC today.

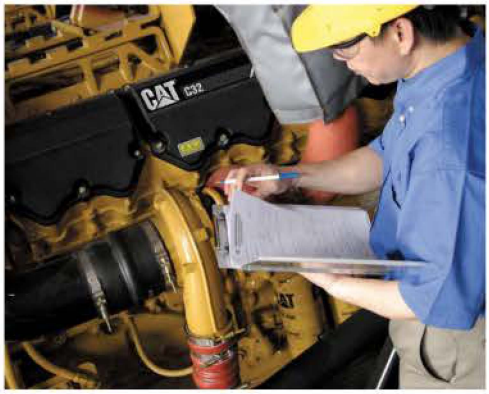
This is a brief description of ESC. It is subject to change without notice. In case of conflict, the ESC contract will govern.

CAT® Financial

WE'VE GOT YOU COVERED

CAT® EXTENDED SERVICE COVERAGE

For Cat Generator Sets



CAT®

EXTENDED SERVICE COVERAGE

For Cat® Generator Sets

Your operation depends on reliable power. Having a sound repair strategy is important to ensuring reliable power. How will you deal with unexpected downtime? And how will you manage your costs when repairs are necessary?

Manage Your Budget with Cat Extended Service Coverage

- Avoid unexpected costs for unscheduled repairs
- Minimize downtime with repairs completed by trained technicians using genuine Cat parts
- Program options to meet your business needs

...and stay productive

Extended Service Coverage helps you manage to the bottom line. To fix your cost of operation consider total maintenance and repair coverage, combine Extended Service Coverage with a Cat dealer maintenance plan.

With a Cat technician on the job you are assured that your generator set will be returned to its original operating specification, meeting all requirements for safe use and environmental compliance.

Whether your generator set is new, used or overhauled each Extended Service Coverage plan is designed to meet your specific needs.

POWER YOU CAN COUNT ON

Coverage throughout the life of your generator set

New Extended Service Coverage* → **Advantage** Extended Service Coverage** → **Overhaul** Protection Coverage

*Available only if purchased before end of original factory warranty.
**Available after the end of the original factory warranty and before the first overhaul.

LEXE0321-00

Cat® Extended Service Coverage (ESC)

4 EASY STEPS TO PROTECT YOUR STANDBY GENERATOR SET

Your operation depends on reliable power. That's why you trust Cat® generator sets. With Extended Service Coverage (ESC), you get service coverage that's just as durable and long-lasting. ESC for **new, used and overhauled standby generator sets** protects your investment and your peace of mind. Choosing coverage is as easy as following these four steps.

1 CHOOSE FROM A VARIETY OF COVERAGE OPTIONS

First, extend your protection beyond the original factory warranty by choosing the coverage option that's right for your situation.

NEW ESC	Coverage for electric power standby generator sets is available in 36- to 120- month terms, in 12-month increments, if purchased before the end of your original factory warranty.
ADVANTAGE ESC	Your engine or genset is eligible if it meets all of the following criteria: > Within defined age and usage hour limitations > Not previously overhauled > Passes Advantage inspection requirements administered by a Cat authorized dealer (if applicable by program).
OVERHAUL ESC	Coverage is available in 12- to 60- month terms, in 12-month increments. Your standby generator set is eligible once a qualifying overhaul has been completed by an authorized Cat dealer in accordance with the Overhaul ESC Checklist.

2 IDENTIFY YOUR COVERAGE NEEDS

Next, identify the age and current operating hours of your generator set since delivery or overhaul. Then calculate your annual hours of use to choose the best ESC coverage terms to fit your needs.

3 SELECT YOUR COVERAGE LEVEL

Then, choose from our Silver, Gold, Platinum or Platinum Plus coverage levels (New and Advantage ESC only) to get the exact amount of protection you need based on the Coverage Matrix[1] and Additional Allowances. Overhaul ESC options are also available. Contact your local Cat dealer for details.

COVERAGE MATRIX[1]

Cooling System	Silver	Gold	Platinum[2]
Thermostat Housing	✓	✓	✓
Water Manifold Housing	✓	✓	✓
Jacket Water Precooler	✓	✓	✓
Jacket Water Pump		✓	✓
Thermostat			✓
Radiator & Fan			✓
Fuel System			
Steel Fuel Lines	✓	✓	✓
Fuel Shutoff Solenoid	✓	✓	✓
Fuel Injectors		✓	✓
Fuel Transfer Pump & Housing			✓
Fuel Priming Pump			✓
Fuel Transfer Pump			✓
Lubrication System			
Pan, Pump Cooler	✓	✓	✓
Crankcase Breather			✓
Engine Oil Pump Drive			✓
Prelubrication Pump			✓
Electric System			
Control Module (ECM)	✓	✓	✓
Sensors: All Engine Sensors	✓	✓	✓
Wiring Harness & Connectors			✓
Starter			✓
Engine Alternator			✓
Alternator End			
Alternator, including Rotor, Stator and Exciter	✓	✓	✓
Generator Controls		✓	✓
Power Center		✓	✓

Air Induction & Exhaust	Silver	Gold	Platinum[2]
Exhaust Manifolds, Studs & Gaskets	✓	✓	✓
Inlet Air Heater Relay	✓	✓	✓
Intake Manifold	✓	✓	✓
Turbocharger(s)		✓	✓
Air-to-Air Aftercooler Cores			✓
Muffler/Exhaust System			✓
Exhaust Guards			✓
Diesel Oxidation Catalyst			✓
Short Block			
Cylinder Block Casting	✓	✓	✓
Crankshaft	✓	✓	✓
Connecting Rod Assembly	✓	✓	✓
Piston, Wrist Pin, Retainer Clip & Piston Rings	✓	✓	✓
Idler and Timing Gears			✓
Accessory Drive			✓
Cylinder Head			
Cylinder Head	✓	✓	✓
Intake & Exhaust Valves	✓	✓	✓
Valve Mechanism	✓	✓	✓
Camshaft, Camshaft Bearings, Key, Gear	✓	✓	✓
Front & Rear Covers			
Front Cover/Plate/Housing/Gears & Gaskets	✓	✓	✓
Vibration Damper	✓	✓	✓
Flywheel Housing & Gasket	✓	✓	✓
Crankshaft Front & Rear Seal			✓
Optional Aftertreatment Coverage			
Diesel Particulate Filter	✓[3]	✓[3]	✓[3]
Selective Catalytic Reduction	✓[3]	✓[3]	✓[3]

1 This Coverage Matrix is for reference only and does not represent a complete list of covered components. For additional information, please reference the appropriate ESC contract.
2 Platinum level coverage covers all as-shipped consist from the factory with Cat part numbers. Some exclusions may apply.
3 Recent emissions-compliant engines or generator sets may be equipped with a Diesel Particulate Filter (DPF) and/or a Selective Catalytic Reduction (SCR). We offer coverage at an additional costs on these emissions components. Silver, Gold, Platinum or Platinum Plus base level coverage is required.

ADDITIONAL ALLOWANCES

	Travel/Mileage Limitations		Emergency Freight	Rental[5]		Crane & Rigging[6]	Overtime
Engine Displacement[4]	Silver, Gold, Platinum	Platinum Plus Only	All Coverage Levels	Platinum Only	Platinum Plus Only	Platinum Plus Only	Platinum Plus Only
Up to 4 liters	2 hr/100 mi	10 hr/500 mi	$500 USD	$2,500 USD	$5,000 USD	$1,000 USD	$1,500 USD
Over 4 liters up to 7.5 liters	4 hr/200 mi	10 hr/500 mi	$500 USD	$5,000 USD	$10,000 USD	$1,000 USD	$1,500 USD
Over 7.5 liters up to 34 liters	8 hr/320 mi	10 hr/500 mi	$500 USD	$10,000 USD	$20,000 USD	$5,000 USD	$1,500 USD
Over 34 liters	8 hr/320 mi	10 hr/500 mi	$500 USD	$15,000 USD	$40,000 USD	$12,500 USD	$1,500 USD

4 Please refer to the generator set spec sheets for particular engine displacement.
5 Allowance is granted if covered failure repairs cannot be completed within 96 hours (for Platinum) or 48 hours (for Platinum Plus) of the authorized dealer technician's initial visit.
6 Allowance is granted if covered failure repairs cannot be completed within 48 hours of the authorized dealer technician's initial visit.

Platinum Plus goes beyond Platinum coverage to include Cat components installed by an authorized dealer. Such components must be approved. See your Cat dealer for details.

4 PURCHASE AND REGISTER YOUR ESC

Finally, work with your local Cat dealer to complete the process—and get the protection and peace of mind you deserve.

CAT Financial

FTSR.AU3508 - Engine Generators

UL Product

Engine Generators

CATERPILLAR INC
560 REHOBOTH RD
GRIFFIN, GA 30224-7618 United States

AU3508

Model(s): C175-20

Stationary engine generator assemblies, Model(s): 3500 Global Series, 3508, 3508B, 3512, 3512B, 3512B HD, 3512C, 3516, 3516B, 3516B HD, 3516C, 3516C-HD, 3516E, C15, C175-16, C18, C9, GS277, GS471, GS471 LS, GS533, GS534, GS603

Stationary engine generator assemblies, 3 phase, Model(s): C13 (350-400kW), C15 (350-550kW), C18 (500 KW, Aftertreatment), C18 (500-750 kW), D125, D150, D175, D200, G3412 (500KW standby), G3500 (750-1500kW standby), G3520 (2000-2600KW standby)

Stationary engine generator assemblies, 3 phase, Model(s): C13GC - D350GC & D400GC (350-400 kW Standby)

Stationary engine generator assemblies, 3 phase, Model(s): C15GC - D450GC & D500GC (450-500 kW Standby)

Stationary engine generator assemblies, 3 phase, Model(s): C18GC - D550GC & D600GC (550-600 kW Standby)

Stationary engine generator assemblies, 3 phase, Model(s): C9GC - D250GC & D300GC (250-300 kW Standby)

Stationary engine generator assemblies, 3 phase, Model(s): DG, followed by 30, 40, 50, 60, 80, 100, 125 or 150, may be followed by -2 or -4.

Stationary engine generator assemblies, 3 phase and single phase, Model(s): D100, D100GC, D125GC, D150GC, D175GC, D200GC, D40GC, D50GC, D60GC, D80, D80GC

Stationary engine generator assemblies, 3 phase and single phase, Model(s): D, followed by 40, 50 or 60, maybe followed by -, maybe followed by a number designated x, maybe followed by letter designated XX.

Stationary engine generator assemblies, 3 phase and single phase, "Verizon Series", Model(s): D40, D50

Stationary engine generator assemblies, single phase, Model(s): D100GC, D40GC, D50GC, D60GC, D80GC

Stationary engine generator assemblies, single phase, Model(s): DG, followed by 30, 40, 50, 60, 80 or 100, may be followed by -2 or -4.

* - With an optional one or two letter prefix.

VMC GROUP
THE POWER OF TOGETHER

CATERPILLAR®

CERTIFICATE OF COMPLIANCE
SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certification No.

VMA-53893-01C (Revision 3)

Expiration Date: 7/31/2026

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED[1] FOR SEISMIC APPLICATIONS in accordance with the following building code[2] releases.

IBC 2021, 2018, 2015, 2012

The following model designations, options, and accessories are included in this certification. Reference report number VMA-53893-01 as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

Caterpillar; Diesel Gensets
D40GC - D200GC; 40 kW - 200 kW

The above referenced equipment is **APPROVED** for seismic application when properly installed[3], used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance[4]. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as I_p=1.5. The equipment is qualified by successful seismic shake table testing at the nationally recognized University of California Berkeley Pacific Earthquake Engineering Research Center under the witness of the ISO Accredited Product Certification Agency, the VMC Group.

Certified Seismic Design Levels			
Certified IBC	**Importance $I_p \leq 1.5$** Soil Classes A-E Risk Categories I-IV Design Categories A-F	z/h ≤ 1.0	z/h = 0.0
		$S_{DS} \leq 0.567$ g	$S_{DS} \leq 1.700$ g

Certified Seismic Installation Methods	
Rigid Mounting From Unit Base To Rigid Structure	Rigid Mounting From Unit Base To Fuel Tank

HEADQUARTERS
113 Main Street
Bloomingdale, NJ 07403
Phone: 973.838.1780
Toll Free: 800.569.8423
Fax: 973.492.8430

CALIFORNIA
180 Promenade Circle
Suite 300
Sacramento, CA 95834
Phone: 916.634.7771

TEXAS
11930 Brittmoore Park Drive
Houston, TX 77041
Phone: 713.466.0003
Fax: 713.466.1355

thevmcgroup.com

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CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certified Product Table:

Model	Rating	Config	Off Tank Length [in.]	Off Tank Width [in.]	Off Tank Height [in.]	Off Tank Weight [lbs.]	On Tank Length [in.]	On Tank Width [in.]	On Tank Height [in.]	On Tank Weight [lbs.]
D40GC	40	Open	77	43	48	1847	107	43	55	3387
		Enclosed	96	44	52	2241	115	44	59	3781
D50GC	50	Open	77	43	48	2054	107	43	55	3594
		Enclosed	96	44	52	2448	115	44	59	3988
D60GC	60	Open	77	43	48	1997	107	43	55	3537
		Enclosed	96	44	52	2400	115	44	59	3931
D80GC	80	Open	83	43	53	2095	119	43	62	4220
		Enclosed	109	44	56	2512	128	44	66	4637
D100GC	100	Open	83	43	53	2222	119	43	62	4348
		Enclosed	109	44	56	2639	128	44	66	4765
D125GC	125	Open	104	51	55	3099	144	51	69	7072
	126	Enclosed	139	52	62	3704	158	52	76	7676
D150GC	150	Open	104	51	55	3443	144	51	69	7415
		Enclosed	139	52	62	4048	158	52	76	8020
D175GC	175	Open	104	51	59	3741	144	51	73	7713
	176	Enclosed	139	52	62	4346	158	52	76	8318
D200GC	200	Open	104	51	59	3917	144	51	73	7889
		Enclosed	139	52	62	4522	158	52	76	8490

Type	S_{DS} (z/h=0)	S_{DS} (z/h=1)	A_{Flex-H}	A_{Rig-H}	A_{Flex-V}	A_{Rig-V}	F_p/W_p
AC156	1.700	0.567	1.700	0.680	1.133	0.459	0.765

This certifcation includes the open generator set and the enclosed generator set when installed with or without the sub-base tank. This certifcation also includes the sub-base tank as a stand-alone accessory. The generator set and included options shall be a catalogue design and factory supplied. The generator set and applicable options shall be installed and attached to the building structure per the manufacturer supplied seismic installation instructions. For a list of certifed confgurations and options please directly contact the manufacturer. This certifcation excludes all non-factory supplied accessories, including but not limited to mufers, isolation/restraint devices, remote control panels, remote radiators, pumps and other electrical/mechanical components.

IBC CERTIFIED
VMC GROUP

VMA-53893-01C (Revision 3)
Issue Date: Wednesday, January 20, 2021
Revision Date: Saturday, April 8, 2023
Expiration Date: Friday, July 31, 2026

VMC GROUP
THE POWER OF TOGETHER

CATERPILLAR®

CERTIFICATE OF COMPLIANCE
SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Notes & Comments:

1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The tested units were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/Ice loads have been neglected and thus limit the unit to be installed both indoors (covered by an independent protective structure) and out of doors (exposed to accumulating snow/ice) for ground snow loads no greater than 30 psf for all applications.

2. The following building codes are addressed under this certification:
   IBC 2021 referencing ASCE7-16 and ICC-ES AC-156
   IBC 2018 referencing ASCE7-16 and ICC-ES AC-156
   IBC 2015 referencing ASCE7-10 and ICC-ES AC-156
   IBC 2012 referencing ASCE7-10 and ICC-ES AC-156

3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for ensuring the proper installation of all anchors and mounting hardware.

4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, the VMC Group, and meets the seismic design levels claimed by this certificate.

5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification makes no statements of compliance in regards to NEMA, IP, UL, CSA, or other relevant standards after a seismic event. For compliance to other relevant standards, please contact the manufacturer.

6. This certificate applies to units manufactured at:
   1720 West Kingsbury Street, Seguin, TX 78155

7. This certification follows the VMC Group's ISO-17065 Scheme.

John P. Giuliano, PE
President, VMC Group

IAS ACCREDITED Product Certification Agency

VMA-53893-01C (Revision 3)
Issue Date: Wednesday, January 20, 2021
Revision Date: Saturday, April 8, 2023
Expiration Date: Friday, July 31, 2026

IBC CERTIFIED VMC GROUP

Effective with sales to the first user on or after August 1, 2014

CATERPILLAR LIMITED WARRANTY

Industrial, Petroleum, Locomotive, and Agriculture Engine Products and Electric Power Generation Products

Worldwide

Caterpillar Inc. or any of its subsidiaries ("Caterpillar") warrants new and remanufactured engines and electric power generation products sold by it (including any products of other manufacturers packaged and sold by Caterpillar), to be free from defects in material and workmanship.

This warranty does not apply engines sold for use in on-highway vehicle or marine applications; engines in machines manufactured by or for Caterpillar; C175, 3500 and 3600 series engines used in locomotive applications; 3000 Family engines, C0.5 through C4.4 and ACERT™ (C6.6, C7, C7.1, C9, C9.3, C11, C13, C15, C18, C27, and C32) engines used in industrial, mobile agriculture and locomotive applications; or Cat® batteries. These products are covered by other Caterpillar warranties.

This warranty is subject to the following:

Warranty Period

- For industrial engines, engines in a petroleum applications or Petroleum Power Systems (excluding petroleum fire pump application), or engines in a Locomotive application, or Uninterruptible Power Supply (UPS) systems, the warranty period is 12 months after date of delivery to the first user.
- For engines used in petroleum fire pump and mobile agriculture applications the warranty period is 24 months after date of delivery to the first user.
- For controls only (EPIC), configurable and custom switchgear products, and automatic transfer switch products, the warranty period is 24 months after date of delivery to the first user.
- For new CG132, CG170 and CG260 series power generation products the warranty period is 24 months/16,000 hours, whichever comes first, after date of delivery to first user.
- For electric power generation products other than CG132, CG170 and CG260 series in prime or continuous applications the warranty period is 12 months. For standby applications the warranty period is 24 months/1000 hours. For emergency standby applications the warranty period is 24 months/400 hours. All terms begin after date of delivery to the first user.
- For all other applications the warranty period is 12 months after date of delivery to the first user.

Caterpillar Responsibilities

If a defect in material or workmanship is found during the warranty period, Caterpillar will, during normal working hours and at a place of business of a Cat dealer or other source approved by Caterpillar:

- Provide (at Caterpillar's choice) new, Remanufactured, or Caterpillar approved repaired parts or assembled components needed to correct the defect.

Note: New, remanufactured, or Caterpillar approved repaired parts or assembled components provided under the terms of this warranty are warranted for the remainder of the warranty period applicable to the product in which installed as if such parts were original components of that product. Items replaced under this warranty become the property of Caterpillar.

- Replace lubricating oil, filters, coolant, and other service items made unusable by the defect.
- Provide reasonable and customary labor needed to correct the defect, including labor to disconnect the product from and reconnect the product to its attached equipment, mounting, and support systems, if required.

For new 3114, 3116, and 3126 engines and electric power generation products (including any new products of other manufacturers packaged and sold by Caterpillar):

- Provide travel labor, up to four hours round trip, if in the opinion of Caterpillar, the product cannot reasonably be transported to a place of business of a Cat dealer or other source approved by Caterpillar (travel labor in excess of four hours round trip, and any meals, mileage, lodging, etc. is the user's responsibility).

For all other products:

- Provide reasonable travel expenses for authorized mechanics, including meals, mileage, and lodging, when Caterpillar chooses to make the repair on-site.

User Responsibilities

The user is responsible for:

- Providing proof of the delivery date to the first user.
- Labor costs, except as stated under "Caterpillar Responsibilities," including costs beyond those required to disconnect the product from and reconnect the product to its attached equipment, mounting, and support systems.
- Travel or transporting costs, except as stated under "Caterpillar Responsibilities."
- Premium or overtime labor costs.
- Parts shipping charges in excess of those that are usual and customary.
- Local taxes, if applicable.
- Costs to investigate complaints, unless the problem is caused by a defect in Caterpillar material or workmanship.
- Giving timely notice of a warrantable failure and promptly making the product available for repair.
- Performance of the required maintenance (including use of proper fuel, oil, lubricants, and coolant) and items replaced due to normal wear and tear.
- Allowing Caterpillar access to all electronically stored data.

Limitations

Caterpillar is not responsible for:

- Failures resulting from any use or installation that Caterpillar judges improper.
- Failures resulting from attachments, accessory items, and parts not sold or approved by Caterpillar.
- Failures resulting from abuse, neglect, and/or improper repair.
- Failures resulting from user's delay in making the product available after being notified of a potential product problem.
- Failures resulting from unauthorized repairs or adjustments, and unauthorized fuel setting changes.
- Damage to parts, fixtures, housings, attachments, and accessory items that are not part of the engine, Cat Selective Catalytic Reduction System or electric power generation product (including any products of other manufacturers packaged and sold by Caterpillar).
- Repair of components sold by Caterpillar that is warranted directly to the user by their respective manufacturer. Depending on type of application, certain exclusions may apply. Consult your Cat dealer for more information.

(Continued on reverse side…)

This warranty covers every major component of the products. Claims under this warranty should be submitted to a place of business of a Cat dealer or other source approved by Caterpillar. For further information concerning either the location to submit claims or Caterpillar as the issuer of this warranty, write Caterpillar Inc., 100 N. E. Adams St., Peoria, IL USA 61629.

Caterpillar's obligations under this Limited Warranty are subject to, and shall not apply in contravention of, the laws, rules, regulations, directives, ordinances, orders, or statutes of the United States, or of any other applicable jurisdiction, without recourse or liability with respect to Caterpillar.

A) For products operating outside of Australia, Fiji, Nauru, New Caledonia, New Zealand, Papua New Guinea, the Solomon Islands and Tahiti, the following is applicable:

NEITHER THE FOREGOING EXPRESS WARRANTY NOR ANY OTHER WARRANTY BY CATERPILLAR, EXPRESS OR IMPLIED, IS APPLICABLE TO ANY ITEM CATERPILLAR SELLS THAT IS WARRANTED DIRECTLY TO THE USER BY ITS MANUFACTURER.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT CATERPILLAR EMISSION-RELATED COMPONENTS WARRANTIES FOR NEW ENGINES, WHERE APPLICABLE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISION OF MATERIAL AND SERVICES, AS SPECIFIED HEREIN.

CATERPILLAR IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

CATERPILLAR EXCLUDES ALL LIABILITY FOR OR ARISING FROM ANY NEGLIGENCE ON ITS PART OR ON THE PART OF ANY OF ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN RESPECT OF THE MANUFACTURE OR SUPPLY OF GOODS OR THE PROVISION OF SERVICES RELATING TO THE GOODS.

IF OTHERWISE APPLICABLE, THE VIENNA CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS IS EXCLUDED IN ITS ENTIRETY.

For personal or family use engines or electric power generation products, operating in the USA, its territories and possessions, some states do not allow limitations on how long an implied warranty may last nor allow the exclusion or limitation of incidental or consequential damages. Therefore, the previously expressed exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary by jurisdiction. To find the location of the nearest Cat dealer or other authorized repair facility, call (800) 447-4986. If you have questions concerning this warranty or its applications, call or write:

In USA and Canada: Caterpillar Inc., Engine Division, P. O. Box 610, Mossville, IL 61552-0610, Attention: Customer Service Manager, Telephone (800) 447-4986. Outside the USA and Canada: Contact your Cat dealer.

B) For products operating in Australia, Fiji, Nauru, New Caledonia, New Zealand, Papua New Guinea, the Solomon Islands and Tahiti, the following is applicable:

THIS WARRANTY IS IN ADDITION TO WARRANTIES AND CONDITIONS IMPLIED BY STATUTE AND OTHER STATUTORY RIGHTS AND OBLIGATIONS THAT BY ANY APPLICABLE LAW CANNOT BE EXCLUDED, RESTRICTED OR MODIFIED ("MANDATORY RIGHTS"). ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED (BY STATUTE OR OTHERWISE), ARE EXCLUDED. WITHOUT LIMITING THE FOREGOING PROVISIONS OF THIS PARAGRAPH, WHERE A PRODUCT IS SUPPLIED FOR BUSINESS PURPOSES, THE CONSUMER GUARANTEES UNDER THE CONSUMER GUARANTEES ACT 1993 (NZ) WILL NOT APPLY.

NEITHER THIS WARRANTY NOR ANY OTHER CONDITION OR WARRANTY BY CATERPILLAR, EXPRESS OR IMPLIED (SUBJECT ONLY TO THE MANDATORY RIGHTS), IS APPLICABLE TO ANY ITEM CATERPILLAR SELLS THAT IS WARRANTED DIRECTLY TO THE USER BY ITS MANUFACTURER.

IF THE MANDATORY RIGHTS MAKE CATERPILLAR LIABLE IN CONNECTION WITH SERVICES OR GOODS, THEN TO THE EXTENT PERMITTED UNDER THE MANDATORY RIGHTS, THAT LIABILITY SHALL BE LIMITED AT CATERPILLAR'S OPTION TO (a) IN THE CASE OF SERVICES, THE SUPPLY OF THE SERVICES AGAIN OR THE PAYMENT OF THE COST OF HAVING THE SERVICES SUPPLIED AGAIN AND (b) IN THE CASE OF GOODS, THE REPAIR OR REPLACEMENT OF THE GOODS, THE SUPPLY OF EQUIVALENT GOODS, THE PAYMENT OF THE COST OF SUCH REPAIR OR REPLACEMENT OR THE ACQUISITION OF EQUIVALENT GOODS.

CATERPILLAR EXCLUDES ALL LIABILITY FOR OR ARISING FROM ANY NEGLIGENCE ON ITS PART OR ON THE PART OF ANY OF ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN RESPECT OF THE MANUFACTURE OR SUPPLY OF GOODS OR THE PROVISION OF SERVICES RELATING TO THE GOODS.

CATERPILLAR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES UNLESS IMPOSED UNDER MANDATORY RIGHTS.

IF OTHERWISE APPLICABLE, THE VIENNA CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS IS EXCLUDED IN ITS ENTIRETY.

C) For products supplied in Australia:

IF THE PRODUCTS TO WHICH THIS WARRANTY APPLIES ARE:

- **I. PRODUCTS OF A KIND ORDINARILY ACQUIRED FOR PERSONAL, DOMESTIC OR HOUSEHOLD USE OR CONSUMPTION; OR**
- **II. PRODUCTS THAT COST AUD 40,000 OR LESS,**

WHERE THOSE PRODUCTS WERE NOT ACQUIRED FOR THE PURPOSE OF RE-SUPPLY OR FOR THE PURPOSE OF USING THEM UP OR TRANSFORMING THEM IN THE COURSE OF PRODUCTION OR MANUFACTURE OR IN THE COURSE OF REPAIRING OTHER GOODS OR FIXTURES, THEN THIS SECTION C APPLIES.

THE FOLLOWING MANDATORY TEXT IS INCLUDED PURSUANT TO THE AUSTRALIAN CONSUMER LAW AND INCLUDES REFERENCES TO RIGHTS THE USER MAY HAVE AGAINST THE DIRECT SUPPLIER OF THE PRODUCTS: OUR GOODS COME WITH GUARANTEES THAT CANNOT BE EXCLUDED UNDER THE AUSTRALIAN CONSUMER LAW. YOU ARE ENTITLED TO A REPLACEMENT OR REFUND FOR A MAJOR FAILURE AND COMPENSATION FOR ANY OTHER REASONABLY FORESEEABLE LOSS OR DAMAGE. YOU ARE ALSO ENTITLED TO HAVE THE GOODS REPAIRED OR REPLACED IF THE GOODS FAIL TO BE OF ACCEPTABLE QUALITY AND THE FAILURE DOES NOT AMOUNT TO A MAJOR FAILURE. THE INCLUSION OF THIS TEXT DOES NOT CONSTITUTE ANY REPRESENTATION OR ACCEPTANCE BY CATERPILLAR OF LIABILITY TO THE USER OR ANY OTHER PERSON IN ADDITION TO THAT WHICH CATERPILLAR MAY HAVE UNDER THE AUSTRALIAN CONSUMER LAW.

TO THE EXTENT THE PRODUCTS FALL WITHIN THIS SECTION C BUT ARE NOT OF A KIND ORDINARILY ACQUIRED FOR PERSONAL, DOMESTIC OR HOUSEHOLD USE OR CONSUMPTION, CATERPILLAR LIMITS ITS LIABILITY TO THE EXTENT IT IS PERMITTED TO DO SO UNDER THE AUSTRALIAN CONSUMER LAW TO, AT ITS OPTION, THE REPAIR OR REPLACEMENT OF THE PRODUCTS, THE SUPPLY OF EQUIVALENT PRODUCTS, OR THE PAYMENT OF THE COST OF SUCH REPAIR OR REPLACEMENT OR THE ACQUISITION OF EQUIVALENT PRODUCTS.

THE WARRANTY SET OUT IN THIS DOCUMENT IS GIVEN BY CATERPILLAR INC. OR ANY OF ITS SUBSIDIARIES, 100 N. E. ADAMS ST, PEORIA, IL USA 61629, TELEPHONE 1 309 675 1000, THE USER IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH MAKING A CLAIM UNDER THE WARRANTY SET OUT IN THIS DOCUMENT, EXCEPT AS EXPRESSLY STATED OTHERWISE IN THIS DOCUMENT, AND THE USER IS REFERRED TO THE BALANCE OF THE DOCUMENT TERMS CONCERNING CLAIM PROCEDURES, CATERPILLAR RESPONSIBILITIES AND USER RESPONSIBILITIES.

TO THE EXTENT PERMISSIBLE BY LAW, THE TERMS SET OUT IN THE REMAINDER OF THIS WARRANTY DOCUMENT (INCLUDING SECTION B) CONTINUE TO APPLY TO PRODUCTS TO WHICH THIS SECTION C APPLIES.