Your Customer Service Locations

Index of Store Capabilities

- Machine Sales, Rentals, Parts & Service
- Machine Parts & Service
- Industrial Engine Parts & Service
- Industrial Engine Sales, Parts & Service & Generator Rental
- Truck Parts & Service
- Truck & Industrial Engine Parts
- Marine Engine Sales, Parts & Service
- Ag Sales, Parts & Service

AUSTIN
9601 So. IH-35
(512) 282-2011

BRIDGEPORT
707 W. Hwy 380
(940) 683-6297

CORPUS CHRISTI
1319 S. Padre Island
(361) 852-2200
(Rental)
(361) 698-5742

EDINBURG
Truck Service &
Industrial Engine
1320 So. 25th St
(956) 289-7600

FORT WORTH
549 North Jim Wright
Freeway
(817) 246-6651
(Rental)
(817) 847-8880

IRVING
2000 E. Airport Freeway
(972) 721-2000

IRVING
Industrial Engine
2001 N. Loop 12
(972) 721-5800

IRVING
Truck Service
1601 E 356 at Irving Blvd.
(972) 830-4200

LAREDO
14300 FM 1472
(956) 722-0075
(Rental)
(956) 722-0075

LEWISVILLE
1800 East Hwy 121
(214) 483-2500
(Rental)
(214) 483-2590

LONGVIEW
5110 W. Loop 281
(903) 758-6175

LONGVIEW
Rental
5036 W. Loop 281
(903) 234-4747

LONGVIEW
Industrial Engine
2210 Neiman Marcus
Parkway
(903) 553-4300

NORTH DALLAS
10950 Plano Rd.
(214) 342-6700
(Rental)
(214) 342-6710

PFLUGERVILLE
16017 North IH 35
(512) 990-7743
(Rental)
(512) 252-9696

PFLUGERVILLE
Truck Service
& Industrial Engine
16013 North IH-35
(512) 252-1133

SAN ANTONIO
5665 SE Loop 410
Rd.(210) 648-1111
(Rental)
(210) 333-8505

SONORA
707 Glasscock
(325) 387-5303

SULPHUR SPRINGS
1109 W. Industrial Dr.
(903) 885-0626

TEXARKANA (NASH)
6263 Mall Drive
(903) 832-7535
(Rental)
(903) 832-7535

TYLER
12218 State Hwy 31 W
(903) 595-6424
(Rental)
(903) 595-6424

VICTORIA
203 Holt Rd.
(361) 573-2438
(Rental)
(361) 573-2438

WACO
1700 W. Loop 340
(254) 662-4911

WACO
Truck Service
1800 W. Loop 340
(254) 662-7386
(Rental)
(254) 662-7373

WESLACO
725 East St. Hwy 83
(956) 968-2161
(Rental)
(956) 447-9105

2-24-11

HOLT CAT | HOLT CAT THE Rental STORE | HOLT CAT POWER SYSTEMS | HOLT AGRIBUSINESS A DIVISION OF HOLT CAT

Quantity	Characteristic Name	Feature Description
1	PGS EMISSION CERT	EPA STATIONARY EMERGENCY
1	**VOLTAGE OPTION**	**60HZ 480 VOLT (WYE)**
1	**APPLICATION INDICATOR**	**STANDBY POWER.**
1	**ENGINE RATING**	**500ekW, 60Hz, 1800rpm**
1	**CONFIGURATION**	**C15 D500GC PGS**
1	**WARRANTY**	**5 YR WARRANTY**
1	UL LISTING	UL 2200 LISTED PACKAGE GEN SET
1	DECAL LANGUAGE	ENGLISH INSTRUCTION LANGUAGE
1	GOVERNOR TYPE	ADEM A4 GOVERNOR
1	PERMANENT MAGNET	PERMANENT MAGNET GENERATOR
1	SPACE (ALT) HEATER KITS	SPACE HEATER
1	ALTERNATOR	ALT M3154L4 SE DR
1	ALT POWER	FULL POWER
1	**BASE TYPE (MOUNTING OPTION)**	**C15 EXTENDED TANK (24HR) UL2085** **868 Gal useable capacity, 24 Hr Extended Fuel Tank.** **(FOR UL142, DED $18,300.00)**
1	FUEL TANK OPTIONS	OVERFILL PREV & SPILL CONTAIN
1	LOW FUEL LEVEL ALARM	AUDIO & FUEL ALARM (90% LEVEL)
1	**ENCLOSURE**	**SOUND ATTENUATED LEVEL 2 ENC (WHITE) W/ MUFFLER**
1	ENCLOSURE LIGHTS	ENCLOSURE LIGHTS
1	PANEL MOUNTED ALARM	PANEL MOUNTED AUDIBLE ALARM
1	GROUND FAULT RELAY	GROUND FAULT RELAY INDICATION
1	LOAD CENTER	100A LOAD CENTER
1	GFCI AC REC & WIRING	20A GFCI (CONTROLS SIDE)
1	EMERGENCY STOP	EXTERNAL EMERGENCY STOP
1	BATTERY OPTIONS	OVERSIZED WET BATTERY.
1	BATTERY CHARGERS	BATTERY CHARGER 10 AMP
1	JACKET WATER HEATER	JACKET WATER HTR (PUMP STYLE).
1	CURRENT TRANSFORMER	1000:5 CT RATIO
1	**1ST CIRCUIT BREAKER**	**800A LSI SINGLE MANUAL CB**
1	CIRCUIT BREAKER AUX	1ST BREAKER AUXILIARY CONTACTS
1	RADIATOR	STANDARD RADIATOR
1	TESTING - GENSET	STD TEST - PKG GEN SET 0.8 PF

1	ALT TEST REPORT	ALTERNATOR TEST REPORT

Quantity	Characteristic Name	Feature Description
1	ATS CONTROLLER	ZTG CONTROLLER
1	**ATS TRANSITION TYPE**	**OPEN TRANSITION**
1	**ATS OPERATION TYPE**	**STANDARD - NO BYPASS**
1	**ATS ENCLOSURE**	**NEMA 1**
1	**ATS AMPERAGE RATING**	**600 AMPS**
1	MECHANICAL LUGS	MECHANICAL LUGS - STANDARD
1	**ATS VOLTAGE**	**480V; 60Hz**
1	PHASE	THREE PHASE
1	**NEUTRAL**	**SOLID NEUTRAL 600A**
1	ATS MECHANISM TYPE	CONTACTOR
1	AUX POSITION CONTACTS	2 NO and 2 NC

Quantity	Characteristic Name	Feature Description
1	ATS CONTROLLER	ZTG CONTROLLER
1	**ATS TRANSITION TYPE**	**OPEN TRANSITION**
1	**ATS OPERATION TYPE**	**STANDARD - NO BYPASS**
1	**ATS ENCLOSURE**	**NEMA 1**
1	**ATS AMPERAGE RATING**	**400 AMPS**
1	MECHANICAL LUGS	MECHANICAL LUGS - STANDARD
1	**ATS VOLTAGE**	**480V; 60Hz**
1	PHASE	THREE PHASE
1	**NEUTRAL**	**SOLID NEUTRAL 400A**
1	ATS MECHANISM TYPE	CONTACTOR
1	AUX POSITION CONTACTS	2 NO and 2 NC

Quantity	Characteristic Name	Feature Description
1	ATS CONTROLLER	ZTG CONTROLLER
1	**ATS TRANSITION TYPE**	**OPEN TRANSITION**
1	**ATS OPERATION TYPE**	**STANDARD - NO BYPASS**
1	**ATS ENCLOSURE**	**NEMA 1**
1	**ATS AMPERAGE RATING**	**260 AMPS**
1	MECHANICAL LUGS	MECHANICAL LUGS - STANDARD
1	**ATS VOLTAGE**	**480V; 60Hz**
1	PHASE	THREE PHASE
1	**NEUTRAL**	**SOLID NEUTRAL 260A**
1	ATS MECHANISM TYPE	CONTACTOR
1	AUX POSITION CONTACTS	2 NO and 2 NC

Qty. 1 **1000A**, Trystar Single Breaker, Dual Purpose Docking Station, supplied in a NEMA 3R Enclosure

Notes, Clarifications and Exceptions:

- Holt Scope of Supply is limited to those items expressly outlined in this proposal. Should there be any uncertainty in this proposal, please call to clarify
- Current lead times have been severely impacted. Therefore, Liquidated Damages will not be accepted. If liquidated damages apply for this project, please do not consider this a valid proposal
- Pricing is based on Specifications Sections 263213, 263601 and Drawing E
- Full One Line Diagram was not provided at the time of pricing. If plans become available please notify us so we can modify this proposal
- Commissioning of the generator equipment will match the manufacturer's recommended services and is considered to be complete at the time of the Holt Power Systems startup unless explicitly stated in our proposal. If additional trips are required, those will be charged at the published field service rate for the time and date the service is rendered

Accessories & Services Included:

- Soft copy Submittals (***Current lead times are 2 – 4 weeks)***
  - Hard copy submittals can be provided upon request
- Delivery to jobsite
  - Storage fees may apply if equipment is held for more than 60 days unless agreements are made prior to 30 days of stated delivery dates
- (3) Full days of startup (normal business hours)
  - Commissioning is included and to be performed once equipment is fully installed and prestartup checklist has been completed.
  - Testing of elevators and fire pumps to be done during this scheduled startup
    - Additional costs will apply if site is not ready for field tech
  - Additional trip charge may apply if equipment is not completely installed
  - Field tech travel is included
- Load Bank Test: 4 hours at no more than 100% load
  - Resistive Only
  - 50' cables will be provided
  - Customer is to provide load connection within this distance
  - Setup and cable connections to generator provided by Holt
    - Connections to switchgear/switchboard to be performed by others
- Building Load Test: 2 hours of building load test to be conducted after load bank testing
- O & M and Parts manuals: electronic copy
  - Additional manuals available at $250/ea
- Training will be provided
  - (Videotaping costs are excluded and done by others)

Accessories & Services NOT Included:

- Factory Witness Testing, Adder available (not specified)
- Generator Load Side Cable Lugs
- Infrared Scanning
- Fire Marshal Testing can be provided at an additional cost
- Coordination / Arc Flash Studies and Labels
- SCADA / BMS / Fire Alarm Systems
- Independent Testing Agency
- NETA Testing
- Construction and Fuel Tank permits and/or registrations
- Offloading of equipment at jobsite
- Protection from damage after delivery
- Cleaning and/or repairs from damage done by others after delivery
- Installation of equipment shipped loose (Exhaust and Fuel Tank accessories such as Remote Fill Station)
- Fuel for startup and testing

Lead Times:

- Generator:
  - Submittals: 2 – 4 weeks
  - Estimated Delivery after Release: 48 – 52 weeks
- ATS Package:
  - Submittals: 2 – 4 weeks
  - Estimated Delivery after Release: 14 – 16 weeks
- Docking Station:
  - Submittals: 2 – 4 weeks
  - Estimated Delivery after Release: 14 – 18 weeks

-HOLT POWER SYSTEMS TERMS & CONDITIONS-

Proposal This proposal is provided to meet the intention of the project equipment requirements. Some interpretational differences between our proposal and the specifications may exist; therefore, the above bill of material contains our offer for this project. None other is expressed or implied unless stated in writing.

Pricing This Proposal is valid for 30 days from the date of proposal unless specifically noted otherwise.

Taxes & Permits This Proposal excludes any local, state and TERP applicable sales taxes, permits and licensing. Taxes, unless otherwise stated are not included in our Proposal. Note that a 2% additional charge is required by the state of Texas for all stationary engine equipment due to emission restrictions. This is in addition to any state and local taxes that may be required. No permits are included in this proposal unless specified in the preceding proposal.

Lead Time Standard delivery of proposed Caterpillar Generator Set to jobsite will be confirmed after receipt of order and submittals are approved and credit terms are agreed.
The quoted lead times are standard from the factory at the time of this quotation. In some cases, lead times maybe able to be improved to assist in customer needs. Please call and inquire about possible improved lead-times.

Special Notes It is the responsibility of the customer to verify the voltage, number of poles in ATS, terminal conductor sizes and other Bill of Material items quoted above as compared to the requirements of this project. Lugs for terminations are included and Project Manager can assist with coordination to ensure compatibility. Holt Cat will not supply new lugs once submittals are approved and equipment has been ordered.

Fuel Tank Changes occur at the municipal level in regard to fire code requirements. Unless otherwise stated within the body of this quotation, the fuel tank included is as specified by the written specifications of this project (if specifications were supplied at the time of quotation). The specifications may be in conflict with City Fire Codes for the location of the project. Responsibility for local code compliance is with the specifying engineer and those responsible for the permits for the project.

Payment Terms Payment due in full Net 30 after delivery with approved Holt credit or COD at time of shipment. In cases where retainage is required, a maximum of 10% retainage will be allowed. The balance of retainage is due after startup-up/ commissioning services of

equipment provided by Holt Cat is completed. Sales tax will be added to invoice. Resale tax certificate must be on file with the Holt credit department for tax-exempt sales.

Warranty Caterpillar's standard two (2) year warranty applies for standby applications, unless otherwise noted. Standard manufacturer's warranty applies to all non-Caterpillar equipment. Copies of warranty statements are available upon request.

Cancellation There will be a minimum 25% cancellation fee for orders cancelled, once placed and accepted by Holt Power Systems. Cost of custom components, completed fabrication, or any other work performed at the time of cancellation will be added to the cancellation fee. If all materials have been acquired the cancellation fees will be 100%. Caterpillar content, 14 days after orders placed will be 100% of the order. Written notice of cancellation is required.

General Clarifications

Holt Power Systems is an equipment supplier only. No fuel, wiring, connecting, hook-up, plumbing, or other installation type labor is included in the proposal unless noted herein. This includes any control wiring to and from the generator sets to any automatic transfer switches, paralleling gear or other devices which HPS may or may not supply.

The customer is responsible for any and all installation of the above equipment. Holt personnel will perform an installation audit prior to start-up.

Unless stated otherwise in this proposal, service and/or maintenance for this equipment are not included. HPS product support service group can provide a quote to the end user of this equipment for those services under a separate proposal.

All equipment needed to perform any loading or unloading of the equipment supplied by Holt Power Systems is the responsibility of the buyer.
Holt Power Systems limits the scope of supply for this quotation to the equipment and services listed in our bill of material. Unless specifically listed in our bill of material, equipment not indicated is to be supplied by others. We have detailed the equipment proposed in the bill of material. Please carefully review it to be certain it meets your requirements.

Third party electrical testing and certifications, seismic calculations, coordination studies, stamped engineering calculations, emissions testing, NETA, infrared scanning, meg-testing or other services and material not specifically included in the preceding quotation, is not included in this proposal.

Holt Power Systems reserves the right to correct any errors or omissions.
Contracts which include penalty or liquidated damage clauses for failure to meet promised shipping dates are not acceptable or binding on Holt Power Systems, unless accepted and confirmed in writing by an officer of Holt Cat.

Holt Power Systems standard terms and conditions are included in the quotation and hereby become part of this quotation. These same terms need to be noted on any purchase order received by Holt Power Systems.

Holt Power Systems will not be responsible for any labor or material charged by others associated with the start-up and installation of this equipment unless previously agreed upon in writing by HPS.

Testing & Commissioning

If included in the proposal, all on-site startup/ commissioning, testing and training will be performed Monday through Friday during normal business hours and excluding nights,

weekends, or holidays unless agreed otherwise in writing. Additional charges may be added for work requested to be done outside HPS's standard business hours, on weekends, or holiday. For those instances, standard overtime rates will apply. All permits are to be by others.

Shipping Delivery of the product unless otherwise stated is by hired independent freight carriers that may require road permitting and other requirements which are outside the responsibility of Holt Cat. Traffic delays and required routing may also delay deliveries. Holt Cat is not responsible for any delays and costs associated with those delays.

Submittals An order for the equipment covered by this proposal will be accepted on a "Hold for Submittal Release" basis. The order will not be released and scheduled for production until written approval to proceed is received in HPS's office.

Authorization to proceed with submittals:

Name

Date

Purchase Order Number

Richard de los Santos
Power Systems – Sales Engineer
Cell: 210-763-2278
Richard.delosSantos@HoltCat.com

Power for every instance. Coverage for every instance.

INTRODUCING NEW PROTECTION FOR CATERPILLAR® ELECTRIC POWER APPLICATIONS.

Whether you need prime power, standby, or load management, you can protect your electric power solution with Extended Service Coverage (ESC) from Cat® Insurance.

Your ESC provides 100 percent of usual and customary parts and labor costs for engine failures due to defects in materials and workmanship on covered components.

COVERAGE THAT IS RIGHT FOR YOU.

Select the level of coverage that meets your need:

Silver coverage includes a wide range of covered components, and you have confidence that that ESC repairs will be done by trained professionals who use genuine Cat parts.

Gold coverage includes all the same items as silver, as well as turbochargers, fuel nozzles and injectors, and water pumps.

For complete confidence, we offer **platinum** coverage. This includes all original factory equipment with Cat Inc. part numbers, excluding consumables such as filters, hoses and belts.

COVERAGE THAT GOES WHERE IT'S NEEDED.

Extended Service Coverage for electric power is available everywhere in the world. So whether your unit is fixed in one location or mobile around the globe, the Cat Dealer network is available to serve you.

COVERAGE AVAILABLE FOR THE LONG TERM.

An ESC from Cat Insurance can protect your Electric Power unit for up to 10 years. You can choose from a variety of coverage terms.

COVERAGE FOR YOUR FULLY INTEGRATED POWER SOLUTION.

You turn to Cat for a total Electric Power solution, and you can select an ESC to cover it. Automatic Transfer Switches and Uninterruptible Power Supplies are eligible for additional protection. See your Cat Dealer today.

Until June 1, 2005, you can upgrade your current Electric Power engine's ESC to gold- or platinum-level coverage with no late charge. Engines in the standard factory warranty period are eligible. See your Cat Dealer for details.

This is a brief description of extended service coverage. The ESC contract will govern.

CAT® Insurance

INSURANCE BACKED BY THE POWER OF CATERPILLAR.

This chart lists types of covered components. The actual ESC contract will govern. See your Cat Dealer for more information.

Covered Components – Electric Power ESC

COMMERCIAL ENGINE "COVERED COMPONENTS"

ITEM	ESC COVERAGE
COOLING SYSTEM	
Thermostat Housing	YES
Jacket Water Pump Housing	YES
Jacket Water Pump Seals & Impeller	YES 1
FUEL SYSTEM	
Fuel Injection Pump, Mounting Seal & Governor	YES
Fuel Ratio Control	YES
Fuel Lines	YES
Fuel Nozzles and Injectors	YES 1
Timing Advance	YES
Timing Gears	YES
LUBRICATION SYSTEM	
Oil Pan	YES
Engine Oil Pump	YES
Oil Cooler Housing & Core	YES
Oil Filter Base	YES
HEUI Pump & Injector Act. Pressure Control Valve	YES
ELECTRONIC SYSTEM	
Control Module (ECM)	YES
Transducer & Personality Module	YES
Sensors (Boost Pressure, Atmospheric, Intake Manifold, Air Temp, Oil Pressure, Coolant Temperature, Rack & Timing, Speed Timing, Fuel Temperature, Throttle Position, Engine Speed, and Rack Position)	YES
Rack and Timing BTM	YES
Shutoff Solenoid	YES
MISCELLANEOUS:	
Broken Nuts and Bolts attaching a Covered Component (torque is not covered)	YES

COMMERCIAL ENGINE "COVERED COMPONENTS"

ITEM	ESC COVERAGE
AIR INDUCTION & EXHAUST	
Exhaust Manifolds, Studs & Gaskets	YES
Inlet Air Heater Relay	YES
Intake Manifold	YES
Turbocharger	YES 1
CYLINDER HEAD	
Cylinder Head Casting, Sleeves, Bolts & Gaskets	YES
Freeze Plug	YES
Spacer Plate (Block and Head) & Spacer Plate Gasket	YES
Intake and Exhaust Valve, Valve Spring, Insert Guide, Rotocoil & Retainer	YES
Valve Mechanism including Rocker Arm, Brackets, Bridges Dowels, Adjusting Screws, Nuts, Shaft, & Push Tubes	YES
Valve Cover & Base	YES
Camshaft, Camshaft Bearings	YES
Camshaft Lifter Assembly (Followers) Clips	YES
FRONT AND REAR COVERS	
Front Covers & Plate	YES
Front Cover Gasket & Gears	YES
Flywheel Housing & Gasket	YES
SHORT BLOCK	
Cylinder Block Casting	YES
Freeze Plug	YES
Crankshaft Casting	YES
Crankshaft Rod, Main & Thrust Bearings	YES
Connecting Rod Assembly & Bushing	YES
Piston, Wrist Pin, Retainer Clip, & Piston Rings	YES
Oil Jet Tube	YES
Cylinder Liner, Seals & Filler Band	YES
Main Bearing Cap Bolt	YES

All "Covered Components" must pass inspection or be replaced at the proper intervals as prescribed by the Operation and Maintenance Manual by an "Authorized Dealer" to qualify for coverage under this Service Contract. "Your" failure to follow the Operation and Maintenance Manual will result in denial of claims.

ESC LEVEL OF COVERAGE OPTIONS:

a. **"Silver Level Covered Components"** are indicated as YES.

Silver Level Additional "Covered Components"

Generator Sets - All engine "covered components" marked YES above plus base radiator, fuel tank, generator-mounted control panel, generator rotor & stator, bearings, exciter, EMCP Module, voltage regulator, and start/stop module.

EPG Power Module - All Generator Set "covered components" listed above plus transfer switch and/or switchgear as shipped from the factory.

b. **"Gold Level Covered Components"** are in addition to "Silver Level Covered Components" and indicated as YES 1.

c. **"Platinum Level Covered Components"** - All as-shipped consist from the factory with Caterpillar Inc. part numbers excluding filters, fluids, vee belts, hoses, power take-offs, paint, batteries, and clutches. Also, for power modules, excluding containers, undercarriage, ladders, lights, wheels, axles, brakes, tires, stabilizing jacks and fire extinguishers.

AUTOMATIC TRANSFER SWITCHES ("ATS")

ATS "Covered Components" - All as-shipped consist of the automatic transfer switch are covered under this ESC.

Preventative Maintenance ("PM") Requirements for ATS Units:

- All units - Monthly testing of the ATS Unit's full operational abilities
- All ESC Contract terms greater than 5 (five) years - Authorized Dealer PM Program required.
- Authorized Dealer PM Program required for all ATS units except CTX, CTG, CTGD, CTS, CTSD irregardless of the ESC Contract Term.

UNINTERRUPTIBLE POWER SUPPLIES ("UPS")

UPS "Covered Components": All as-shipped consist of the Uninterruptible Power Supply are covered under this ESC.

THE FOLLOWING REPAIRER TRAVEL AND MILEAGE LIMITATIONS APPLY TO THIS SERVICE CONTRACT:

- For Caterpillar Commercial engines up to and including 7.0 liters displacement, for ATS models up to and including 1200 amperes and for all Olympian models:
  - in marine applications, up to 6 hours and 240 miles travel allowance.
  - in commercial applications (except marine), up to 4 hours and 0 miles travel allowance.
- For other models in all applications, up to 8 hours, and 320 miles travel allowance.

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 Cat Financial Insurance Services, 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	Coverage is available after the end of the original factory warranty in 12- to 180-month terms, in 12-month increments, and before the first overhaul. Your standby generator set is eligible if: > It's less than four years from delivery date and accumulated less than 3,000 hours total use since new, OR > It's less than 10 years from build date AND currently enrolled in New ESC or Advantage ESC, OR > It's less than 10 years from build date AND currently covered by an authroized Cat dealer Customer Support Agreement (CSA), OR > It passes a qualifying inspection performed by an authorized Cat dealer in accordance with the Advantage Certification Inspection Worksheet.
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 Oxydation 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.

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

Effective with sales to the first user on or after August 1, 2018

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 new and rebuild 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; or Electric Power Generation Products manufactured or assembled in India. 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 after date of delivery to first user, but not to exceed 36 months from shipment from the Caterpillar place of manufacture.
- 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 Caterpillar rebuild electric power generation products the warranty period is 12 months, but not to exceed 24 months from shipment of rebuilt electric power generation product from Caterpillar.
- 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, new and Caterpillar rebuild electric power generation products (which includes the following: 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 (309) 675-1000. If you have questions concerning this warranty or its applications, call or write:

In USA and Canada: Caterpillar Inc, 100 N.E. Adams St., Peoria, IL USA 61629, Attention: Customer Service Manager, Telephone 1 (309) 675-1000, 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.

Cat® D500 GC
Diesel Generator Sets

Standby: 60 Hz, 480V & 600V

Image shown might not reflect actual configuration.

Engine Model	Cat® C15 In-line 6, 4-cycle diesel
Bore x Stroke	137mm x 171mm (5.4in x 6.8in)
Displacement	15.2 L (928 in³)
Compression Ratio	16.1:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

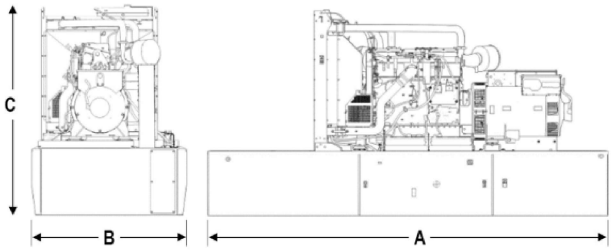
Standby	Performance Strategys
500 ekW, 625 kVA	EPA Certified for Stationary Emergency Application

PACKAGE PERFORMANCE

Performance	Standby	
Frequency	60 Hz	
Genset Power Rating	625 kVA	
Gen set power rating with fan @ 0.8 power factor	500 ekW	
Emissions	EPA TIER 2	
Performance Number	DM8155	
Fuel Consumption		
100% load with fan	135.2 L/hr	35.7 gal/hr
75% load with fan	109.1 L/hr	28.8 gal/hr
50% load with fan	70.4 L/hr	18.6 gal/hr
25% load with fan	41.3 L/hr	10.9 gal/hr
Cooling System[1]		
Radiator air flow restriction (system)	0.12 kPa	0.48 in. Water
Radiator air flow	720 m³/min	25426 cfm
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	54 L	14 gal
Total coolant capacity	75 L	20 gal
Inlet Air		
Combustion air inlet flow rate	38.2 m³/min	1347.7 cfm
Maximum allowable combustion air inlet temperature	49°C	120° F
Exhaust System		
Exhaust stack gas temperature	531.1° C	988.0 ° F
Exhaust gas flow rate	102.1 m³/min	3605.5 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water
Heat Rejection		
Heat rejection to jacket water	182 kW	10375 Btu/min
Heat rejection to exhaust (total)	493 kW	28039 Btu/min
Heat rejection to aftercooler	121 kW	6860 Btu/min
Heat rejection to atmosphere from engine	91 kW	5182 Btu/min
Heat rejection from alternator	29 kW	1655 Btu/min

Emissions(Nominal)[2]	Standby	
NOx	2129.1 mg/Nm³	4.6 g/hp-hr
CO	301.5 mg/Nm³	0.6 g/hp-hr
HC	8.8 mg/Nm³	0.03 g/hp-hr
PM	9.5 mg/Nm³	0.03 g/hp-hr
Alternator[3]		
Voltages	**480V**	**600V**
Motor starting capability @ 30% voltage dip	1019	1103
Current	751.8	601.4
Frame size	M3154L4	M3136L4
Excitation	S.E	AREP
Temperature rise	105°C	130°C

Weights & Dimensions – Open Set



Fuel Tank Capacity

Tank Design	Total Capacity		Useable Capacity	
	Litre	Gallon	Litre	Gallon
Integral	3671	969.7	3323	877.8

Base	Dim A mm (in)	Dim B mm (in)	Dim C mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	4815 (189.6)	1630 (64.2)	2034 (80.1)	3756 (8280.6)
Integral Tank Base	4815 (189.6)	1630 (64.2)	2584 (101.7)	4693 (10346.3)

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 ISO 8178-1 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.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

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.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

www.cat.com/electricpower

LET'S DO THE WORK.™

GENERATOR DATA

(AT400240)-ENGINE (BAA126422A)-CEM

Selected Model

Engine: C15	**Generator Frame:** M3154L4	**Genset Rating (kW):** 500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 751.8
Duty: STANDBY	**Connection:** - STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

Spec Information

Generator Specification

Frame: M3154L4 **Type:** SR500	**No. of Bearings:** 1
Winding Type: RANDOM WOUND	**Flywheel:** 14.0
Connection: - STAR	**Housing:** 1
Phases: 3	**No. of Leads:** 6
Poles: 4	**Wires per Lead:** 0
Sync Speed: 1800	**Generator Pitch:** 0.6667

Generator Efficiency

Per Unit Load	kW	Efficiency %
0.25	125.0	93.3
0.5	250.0	95.2
0.75	375.0	95.4
1.0	500.0	95.1

Reactances	Per Unit	Ohms
SUBTRANSIENT - DIRECT AXIS X''_d	0.1161	0.0428
SUBTRANSIENT - QUADRATURE AXIS X''_q	0.1571	0.0579
TRANSIENT - SATURATED X'_d	0.1657	0.0611
SYNCHRONOUS - DIRECT AXIS X_d	2.9397	1.0837
SYNCHRONOUS - QUADRATURE AXIS X_q	1.4993	0.5527
NEGATIVE SEQUENCE X_2	0.1364	0.0503
ZERO SEQUENCE X_0	0.0068	0.0025

Time Constants	Seconds
OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0}	1.7735
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d	0.1000
OPEN CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_{d0}	0.0142
SHORT CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_d	0.0100
OPEN CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_{q0}	0.0955
SHORT CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_q	0.0100
EXCITER TIME CONSTANT T_e	0.0220
ARMATURE SHORT CIRCUIT T_a	0.0150

Short Circuit Ratio: 0.4	Stator Resistance = 0.0087 Ohms	Field Resistance = 0.5791 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:	10.64 Volts	46.58 Volts	Volts
Excitation current	1.0 Amps	3.6 Amps	Amps

Selected Model

Engine: C15	**Generator Frame:** M3154L4	**Genset Rating (kW):** 500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 751.8
Duty: STANDBY	**Connection: -** STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

Generator Mechanical Information

Center of Gravity

Dimension X	-511.0 mm	-20.1 IN.
Dimension Y	0.0 mm	0.0 IN.
Dimension Z	0.0 mm	0.0 IN.

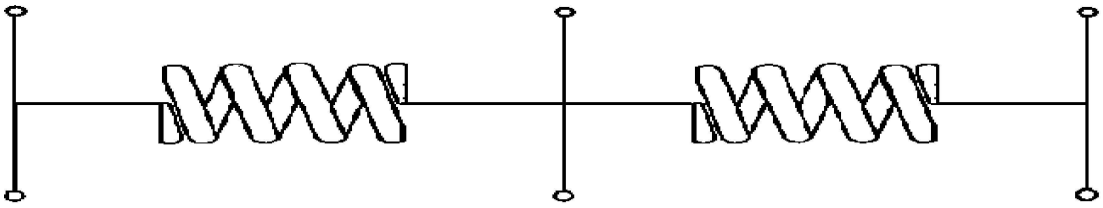
- "X" is measured from driven end of generator and parallel to rotor. Towards engine fan is positive. See General Information for details
- "Y" is measured vertically from rotor center line. Up is positive.
- "Z" is measured to left and right of rotor center line. To the right is positive.

Generator WT = 1240 kg (2,734 LB) * Rotor WT = 496 kg (1,093 LB) * Stator WT = 744 kg (1,640 LB)

Rotor Balance = 0.0 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
17.5 LB IN. s^2	52.0 MLB IN./rad	4.2 IN.	49.1 LB IN. s^2	36.1 MLB IN./rad	4.5 IN.	1.9 LB IN. s^2
1.979 N m s^2	5.87638 MN m/rad	106.0 mm	5.546 N m s^2	4.08 MN m/rad	115.0 mm	0.216 N m s^2

Total J

68.5 LB IN. s^2

7.741 N m s^2

Selected Model

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Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
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Duty: STANDBY	**Connection: -** STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

Generator Cooling Requirements - Temperature - Insulation Data

Cooling Requirements:

Heat Dissipated: 25.8 kW

Air Flow: 66.0 m^3/min

Temperature Data: (Ambient 40 ^{0}C)

Stator Rise: 105.0 ^{0}C

Rotor Rise: 105.0 ^{0}C

Insulation Class: H

Insulation Reg. as shipped: 100.0 MΩ minimum at 40 ^{0}C

Thermal Limits of Generator

Frequency:	60 Hz
Line to Line Voltage:	480 Volts
B BR 80/40	552.0 kVA
F BR -105/40	627.9 kVA
H BR - 125/40	690.0 kVA
F PR - 130/40	690.0 kVA
H PR - 150/40	731.4 kVA
H PR27 - 163/27	759.0 kVA

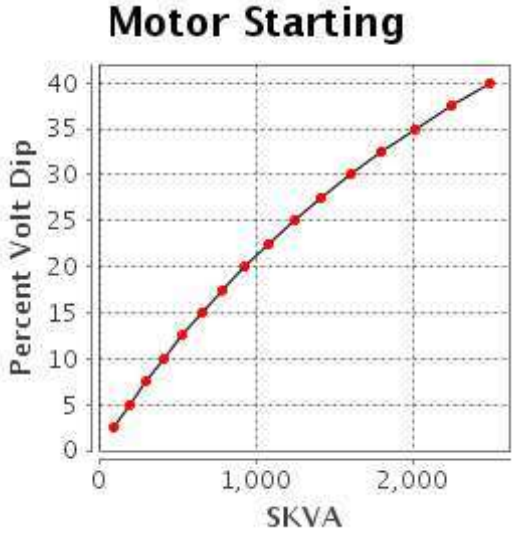
Selected Model

Engine: C15	**Generator Frame:** M3154L4	**Genset Rating (kW):** 500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 751.8
Duty: STANDBY	**Connection: -** STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

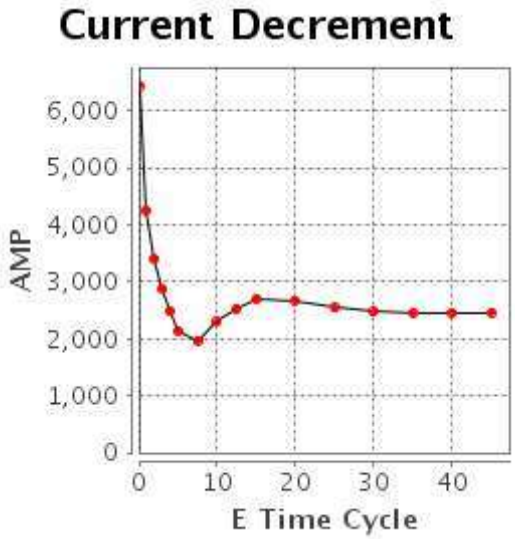
Starting Capability & Current Decrement
Motor Starting Capability (0.6 pf)

SKVA	Percent Volt Dip
96	2.5
197	5.0
303	7.5
416	10.0
534	12.5
660	15.0
794	17.5
935	20.0
1,086	22.5
1,247	25.0
1,419	27.5
1,603	30.0
1,801	32.5
2,015	35.0
2,245	37.5
2,494	40.0



Current Decrement Data

E Time Cycle	AMP
0.0	6,441
1.0	4,252
2.0	3,404
3.0	2,881
4.0	2,476
5.0	2,140
7.5	1,966
10.0	2,296
12.5	2,532
15.0	2,694
20.0	2,674
25.0	2,537
30.0	2,470
35.0	2,453
40.0	2,456
45.0	2,465



Instantaneous 3 Phase Fault Current: 6441 Amps **Instantaneous Line - Line Fault Current:** 5126 Amps

Instantaneous Line - Neutral Fault Current: 8645 Amps

Selected Model

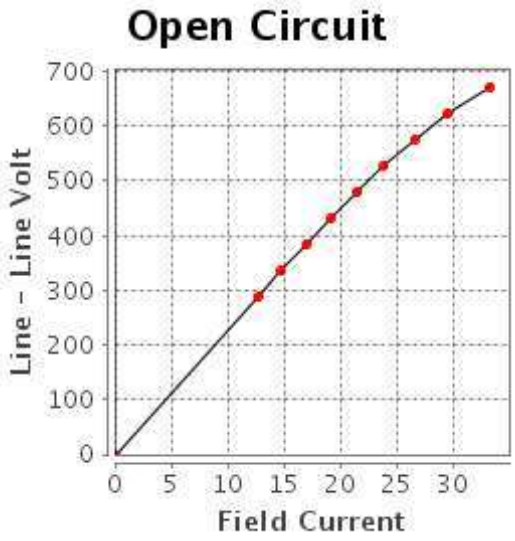
Engine: C15	**Generator Frame:** M3154L4	**Genset Rating (kW):** 500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 751.8
Duty: STANDBY	**Connection: -** STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

Generator Output Characteristic Curves

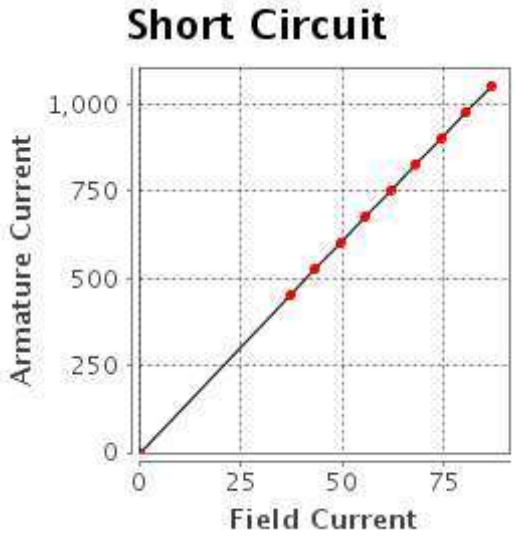
Open Circuit Curve

Field Current	Line - Line Volt
0.0	0
12.7	288
14.8	336
17.0	384
19.2	432
21.5	480
23.9	528
26.6	576
29.6	624
33.3	672



Short Circuit Curve

Field Current	Armature Current
0.0	0
37.2	451
43.3	526
49.5	601
55.7	677
61.9	752
68.1	827
74.3	902
80.5	977
86.7	1,052



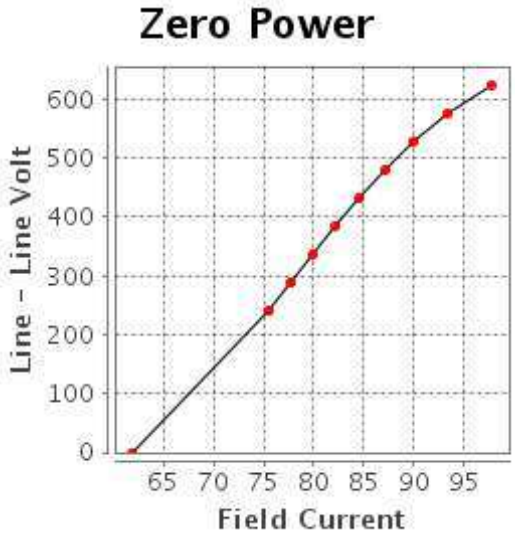
Selected Model

Engine: C15	**Generator Frame:** M3154L4	**Genset Rating (kW):** 500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 751.8
Duty: STANDBY	**Connection: -** STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

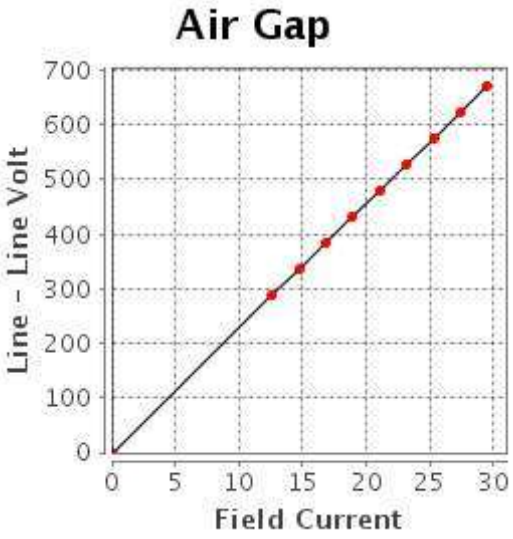
Generator Output Characteristic Curves
Zero Power Factor Curve

Field Current	Line - Line Volt
61.9	0
75.5	240
77.7	288
79.9	336
82.2	384
84.6	432
87.2	480
90.0	528
93.4	576
97.7	624



Air Gap Curve

Field Current	Line - Line Volt
0.0	0
12.6	288
14.7	336
16.8	384
18.9	432
21.1	480
23.2	528
25.3	576
27.4	624
29.5	672

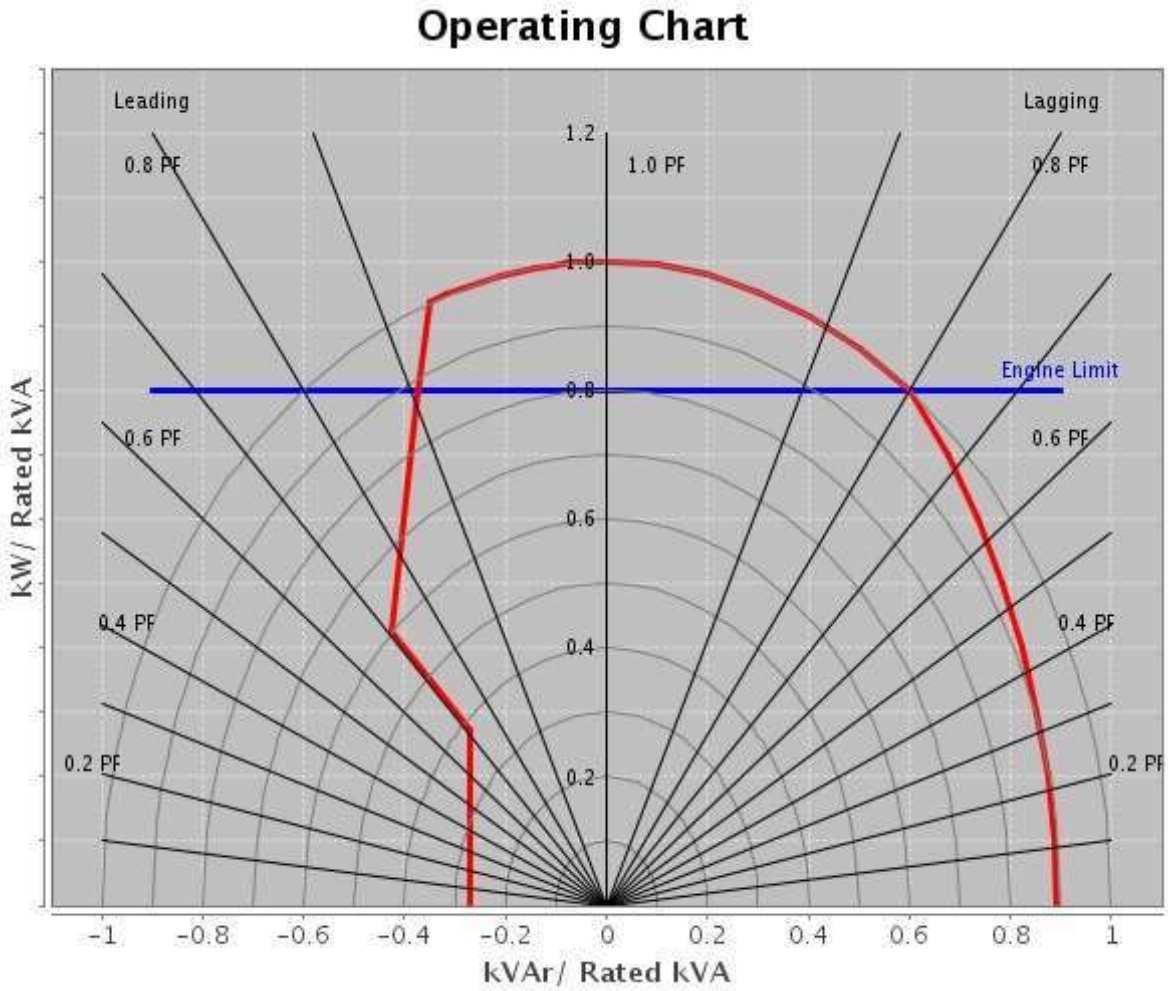


Selected Model

Engine: C15	**Generator Frame:** M3154L4	**Genset Rating (kW):** 500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 5652331	**Genset Rating (kVA):** 625.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 751.8
Duty: STANDBY	**Connection: -** STAR	**Application:** EPG	**Status:** Current

Version: 42423 /43607 /43655 /8558

Reactive Capability Curve



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.

ATTACHMENTS

ULCERT
UL 2200 LISTING

INCLUDES THE FOLLOWING:

ALTERNATOR
Alternator insulation system is UL Recognized (UL 1446). PMG and AREP alternators are available. Automatic voltage regulators are UL Recognized.

WIRE HARNESS
AC, DC, and power harnesses are made with UL Listed wire and UL Listed terminals.

CONTROL PANEL
Control panels are comprised of UL Listed and UL Recognized components. EMCP is UL Recognized.

CIRCUIT BREAKER
Output circuit breaker is 100% rated and UL Listed.

TESTING
All UL Listed sets are designed and rigorously tested in accordance with UL Standard for Safety, UL 2200.

LABELING
Labeling meets UL requirements.

MECHANICAL OPTIONS
Mechanical options do not require UL Listing and, therefore, are not affected. The exceptions to this are:

FUEL TANKS
If a fuel tank is ordered with the unit, it must be UL Listed. Two versions are available: 24 hour integral (FCUL2) and 24/48 hour sub-base (FSBT)

ENCLOSURES
Factory installed enclosures meet UL requirements. Weatherproof and sound attenuated versions are available.

ELECTRICAL OPTIONS
The table below shows electrical options that meet UL requirements:

EOS	Lube Oil Sump Heater
WCA1	Low Coolant Level Shutdown
WSS1	Low Coolant Temperature Alarm
AH1H	Anti-Condensation Heater
WHH	Coolant Heater
GOVES	Electronic Governor (Fully Adjustable)
FSS1	Critical Low Fuel Level Shutdown
FSS2	Low Fuel Level Alarm
FSSS	Critical High Fuel Alarm
PBCSUL	UL Listed Battery Charger
PBC10NU	NFPA Battery Charger, UL Listed

UL Listing is available on all diesel fuelled generator sets up to 17S kW at 60 Hz, 600 vac maximum.

LEHE0410-01 (11-

BUILT FOR IT.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2022 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Caterpillar Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: NCPXL15.2NZS-002

Effective Date: 06/01/2021

Expiration Date: 12/31/2022

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 06/01/2021

Revision Date: N/A

Model Year: 2022
Manufacturer Type: Original Engine Manufacturer
Engine Family: NCPXL15.2NZS

Mobile/Stationary Indicator: Stationary
Emissions Power Category: 560<kW<=2237
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: Electronic Control, Engine Design Modification

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

Jacket Water Heater (WHHH01/ WHHH03)

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 by a 240V for 60 Hz AC auxiliary supply. 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

- Uniform heat distribution
- Reduces wear from cold spots
- Improves startability
- Thermostatically controlled and protected
- 6’ (1.8m) cord length (577-1758)
- 16.4’ (5.0m) cord length (578-9355).
- Ensures generator is at optimal starting temperature and ready to accept load
- Durable pump with non-magnetic impeller that does not attract metal debris
- Robust die cast aluminum housing improves sealing of the hoses, eliminates leaking and breakage
- Corrosion resistant steel brackets for superior strength and durability
- Reduces thermal stress on coolant hoses
- Element designed for long life with maximum heat transfer
- IP44 Ingress Protection Rating
- No evaporation of coolant from hoses
- Reduces low coolant level alarms because coolant does not boil

Part No	Outlet Location	Watts	Volts	Amps	Regulating Thermostat	Safety Thermostat
577-1758/578-9355	Right	2700	240	11.25	On 90°F (32°C) Off 115°F (46°C)	210°F (98°C)

www.cat.com/electricpower

Engine Controller

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

Engine Controller

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

www.cat.com/electricpower

LEHE5347-03 (02/19)

Picture shown may not reflect actual configuration

Generator Condensation/ Space Heater

for 1200, 1400*, 1600 and 1800 Frames

*only with 3512C

GENERAL DESCRIPTION

Humidity is a natural enemy of generators and all electrical equipment.

Space heaters are designed to protect generator windings from abnormally high humidity conditions when the generator is idle. The heater maintains the air around the windings at a suitable temperature to prevent winding corrosion due to condensation.

Generator space heaters use electrical resistance and are located within the generator stator housing.

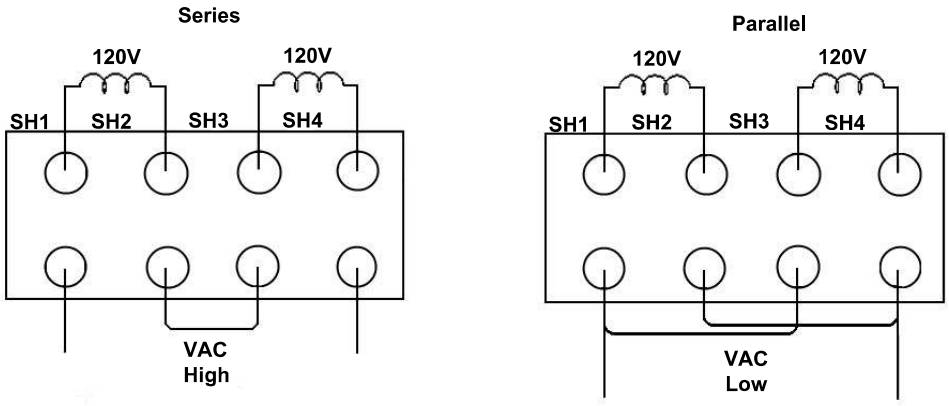
Space heaters are particularly recommended for generator sets located in a low ambient and/or high humidity environment. As a further benefit, space heaters provide an excellent method of drying out a generator after long transit or storage.

Because space heaters are required only during non-operative periods, they require availability of a power source separate from the generator set itself.

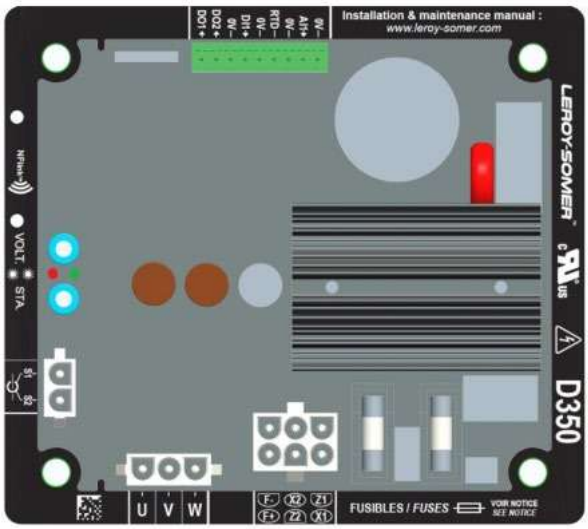
When the generator set is not running the heater automatically connects to the AC supply through a power relay mounted in the control panel. Upon receiving a start signal the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed.

The generator space heater uses two heating elements.
Heater element electrical data: Voltage - 120V, Power - 600W.

Space Heaters Connection Diagram



AUTOMATIC VOLTAGE REGULATOR



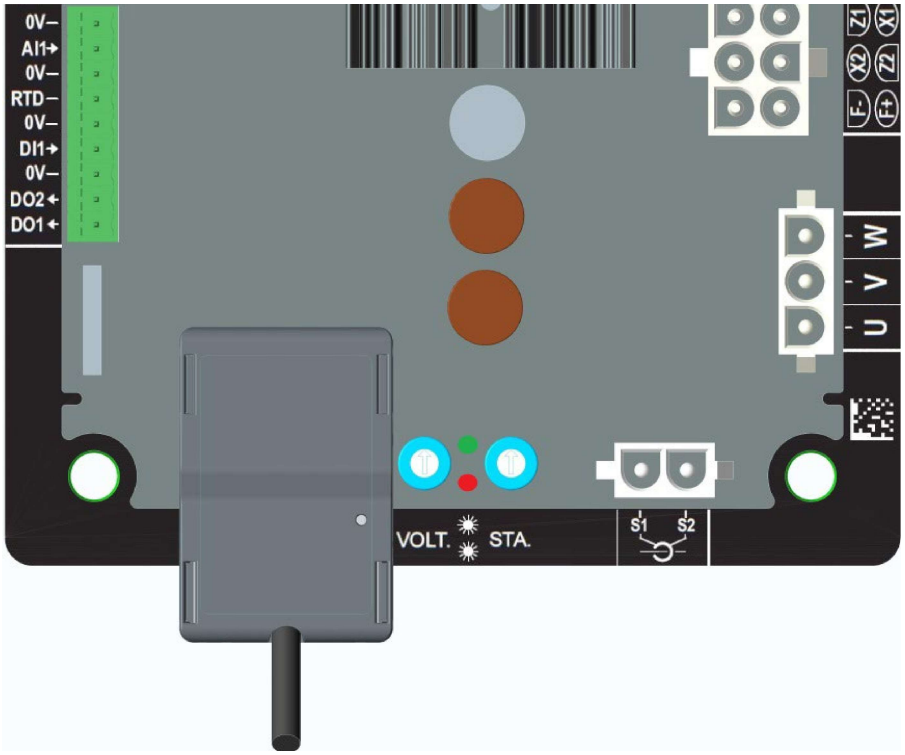
D350 AVR

The D350, Digital Voltage Regulator is used to regulate alternators with a field current of less than 5 A in continuous operations, and 10 A maximum in the event of short-circuit for 10 seconds maximum.

Its design is in accordance with mounting in a generator terminal box or a control cabinet. It is required, at a minimum, to follow the local protection and safety standards, especially those specific to electrical installations for voltages of 300 VAC phase-to-neutral maximum.

NFLink™ configuration module

The D350 is equipped with NFC technology for communication and configuration purposes. The configuration module is placed over the two dedicated positioning holes on the plastic enclosure as shown below. Once the configuration is done, the NF Link must be removed as it is not supposed to be left on the



AUTOMATIC VOLTAGE REGULATOR

Technical characteristics

D350 regulator can be used to perform the following functions:

Voltage regulation

- With or without reactive droop compensation (Reactive droop to allow parallel operation)
- With or without line droop compensation.

Regulation of the field current, or manual mode, which allows direct control of the field current.

The D350 can also be used to:

- Adjust the reference for the regulation mode in progress, using an analogue input (0-10V
- and potentiometer)
- Monitoring of temperature sensor (Pt100 or CTP)
- Limit the minimum field current delivered to the exciter field
- Monitoring of the maximum stator current limit
- Loss of voltage sensing
- Withstand a sudden short-circuit for 10 seconds maximum in AREP, PMG
- Signals monitoring (events logger).
- 2 digital outputs for various trip, regulation mode and measurement data

Alternator voltage sensing:

- 3 phases without neutral, 2 phases or 1 phase with neutral
- Three-phase range 0-530VAC
- Consumption < 2VA

Stator current measurement with CT:

- Range 0-1A or 0-5A
- Consumption < 2VA

Power supply:

- 4 terminals for PMG, AREP, SHUNT
- Range 50-277 VAC
- Consumption max < 3000VA

Field excitation:

- Rated 0-5 A
- Short-circuit 10A max.
- Field winding resistance > 4 ohms

Frequency:

- Range 10-100Hz

AUTOMATIC VOLTAGE REGULATOR

- Regulation accuracy: +/-0.25% of the average of the three phases on a linear load, with harmonic distortion less than 5%
- Voltage adjustment range: 0 to 150% of the rated voltage
- Quadrature droop adjustment range: -20% to 20%
- Under frequency protection: integrated, adjustable threshold, slope adjustable from 0.5 to 3V/Hz in steps of 0.1 V/Hz
- Excitation ceiling: adjustable by configuration at 3 points
- Environment: ambient temperature from -40°C to +65°C, relative humidity of less than 95% non-condensing, mounted in a cabinet or in a terminal box

Easy Reg Advanced:

- All the D350 settings are entered / configured using the "EasyReg Advanced" software.
- This program is only compatible with computers running WINDOWS® versions Windows 7 and Windows 10 operating systems.

Dimensions:

- Height : 52.9mm
- width : 125mm
- Length : 140mm

Mounting:

- Holes spacing on the Length : 115mm
- Holes spacing on the width: 100mm

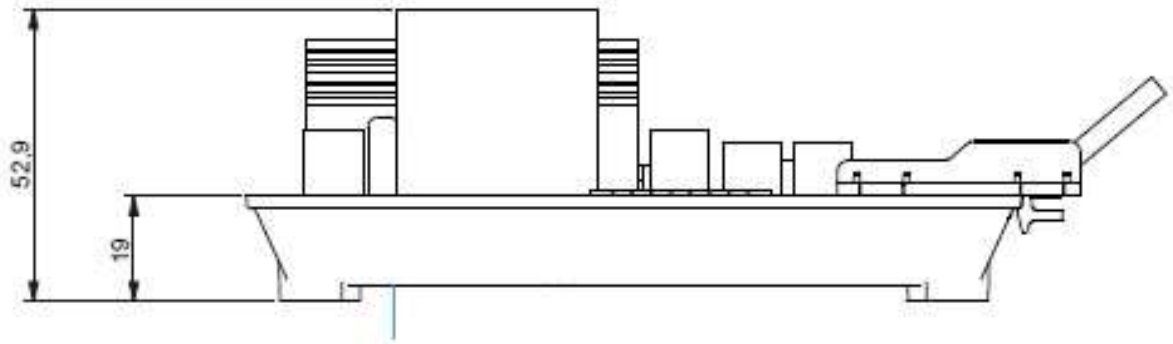
Weight: 0.45kg

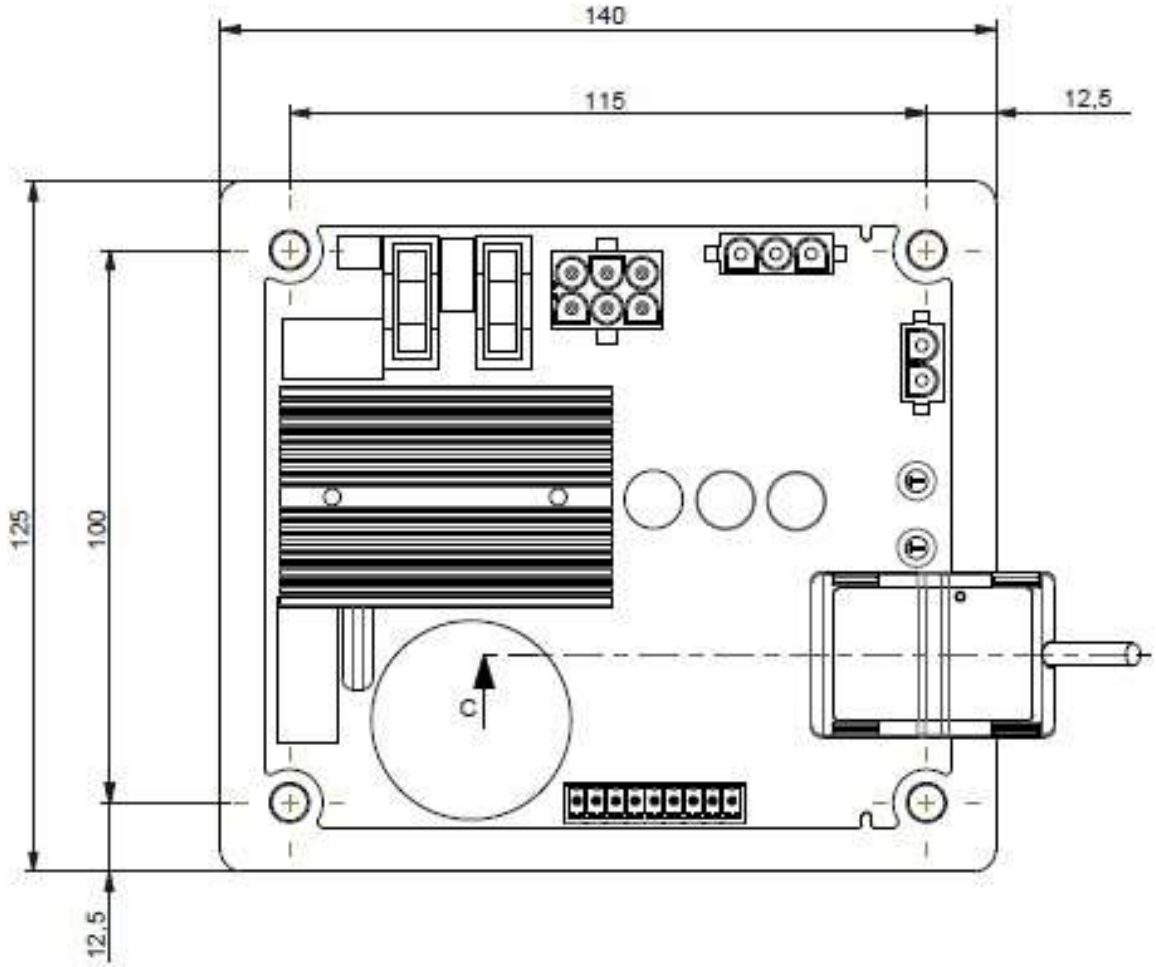
Conformity to standards

- EMC: IEC 61000-6-2, IEC 61000-6-4
- Humidity: IEC 60068-1 and test in accordance with IEC 60068-2-14
- Dry heat: IEC 60068-2-2
- Damp heat: IEC 60028-2-30
- Cold: IEC 600068-2-1

AUTOMATIC VOLTAGE REGULATOR

D350 AVR and NFLink™ Dimensions





C9GC , C13GC , C15GC , C18GC Circuit Breakers

Manually Operated Circuit Breakers

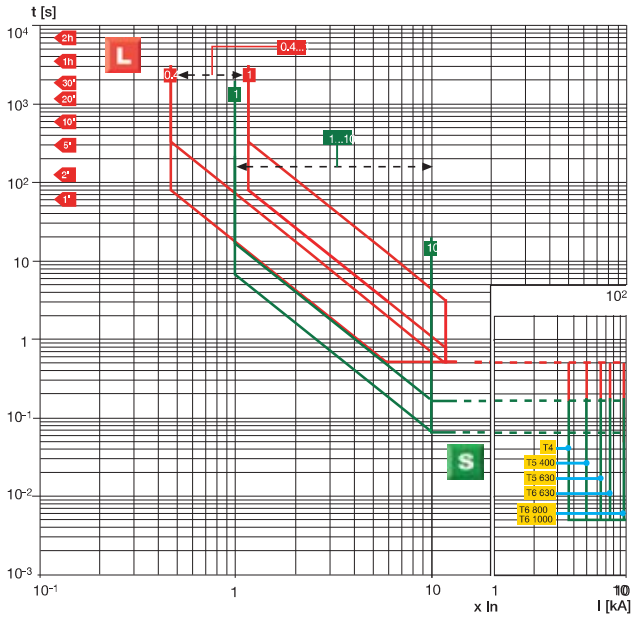
Current (A)	Frame	Number of Poles	Interrupting Ratings (kA rms)			Trip Units	(Lugs) Cable Size Range / Phase	Auxiliary Options
			240V	480V	600V			
100	XT2	3	65	25	18	Electronic LS/I or LSI	14-1/0AWG	1 Form C + 1 Bell Alarm Shunt Trip 24 VDC
250	XT4	3	65	25	18	Electronic LS/I or LSI	14-1/0AWG	1 Form C + 1 Bell Alarm Shunt Trip 24 VDC
400	T5N	3	65	25	18	Electronic LS/I (S or I)	(2) 3/0 – 250 kcmil	1 Form C + 1 Bell Alarm 250VAC/VDC Shunt Trip 24VDC
600	T6N	3	65	35	20		(3) 2/0 – 400 kcmil	
800	T6N	3	65	35	20	LSI	(3) 2/0 – 400 kcmil	1 Form C + 1 Bell Alarm 400VAC / 250VDC Shunt Trip 24VDC
1200	T7S	3	65	50	25		(4) 2/0 – 500 kcmil	

NOTE:
Please note the MAX cables allowed for this factory installed Breaker

T4 250/320 - T5 400/630 - T6 630/800/1000 PR221DS

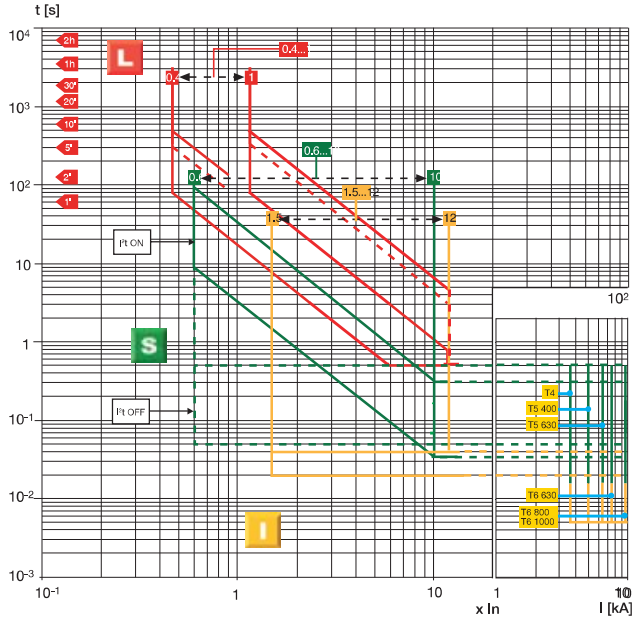
L-S Functions

Note: For T4 In = 320 A, T5 In = 630 A and T6 In = 1000 A I_2max = 9.5 x In



T4 250/320 - T5 400/630 - T6 630/800/1000 PR222DS - PR222DS/PD - PR223DS

L-S-I Functions



Note: The dotted curve of function L corresponds to the maximum delay (t1) which can be set at 6 x I_1, in the case where 320 A CTs are used for T4 and 630 A for T5. For all the CT sizes t_1 = 18s except with 320 A CT (T4), 630 A CT (T5) and 1000 A CT (T6) where t_1 = 10.5s. For T4 In = 320 A, T5 In = 630 A and T6 In = 1000 A I_2max = 9.5 x In, I_3max = 9.5 x In. For T6 In = 800 A I_2max = 10.5 x In. For PR223DS the L protection function can be set to I_1 = 0.18...1 x In.

T6 800 - PR222DS and PR222DS/PD-A

L-S-I Functions

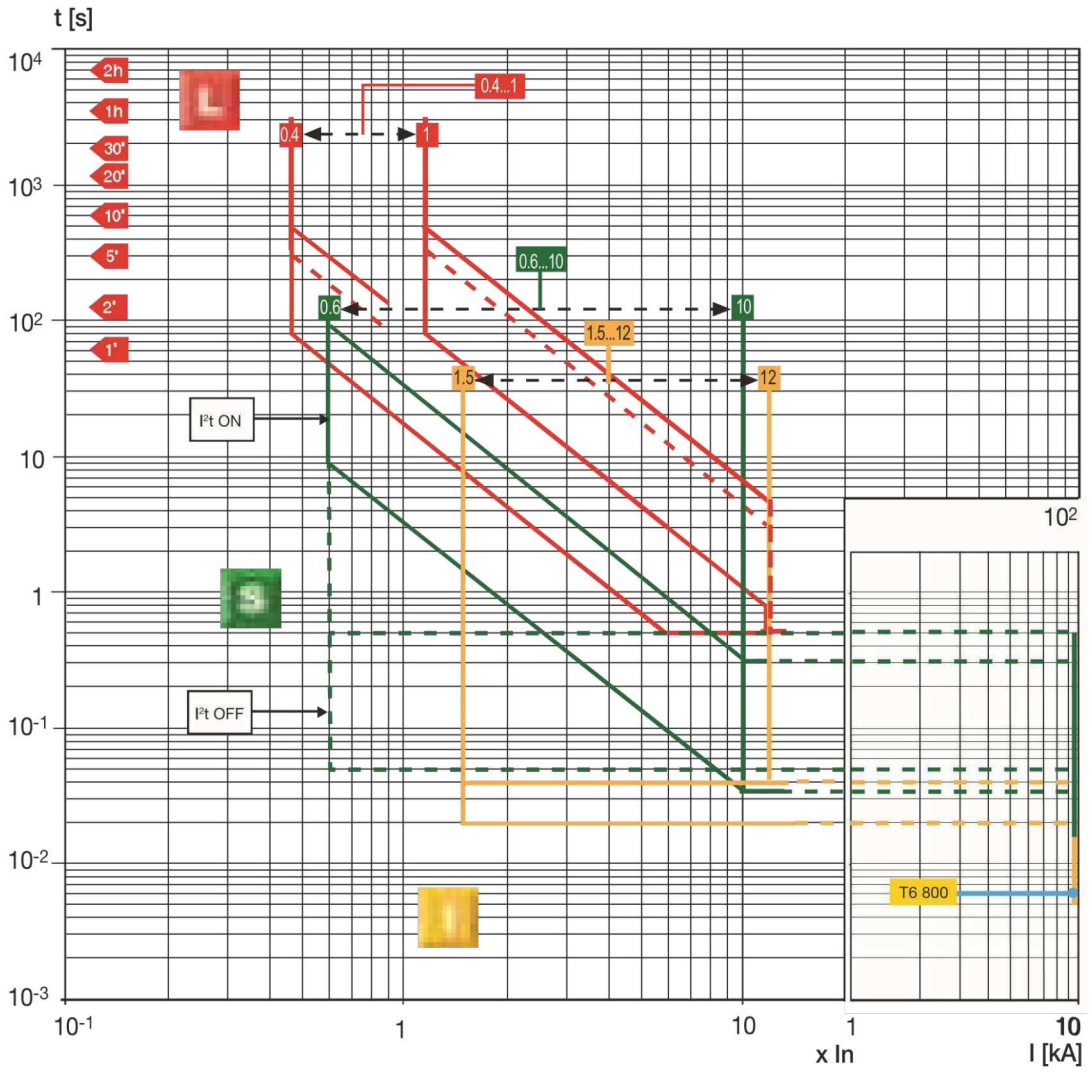
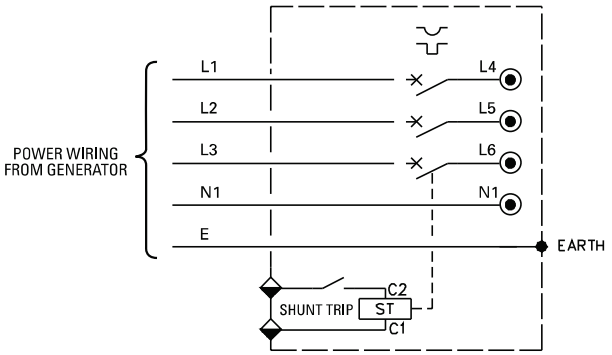
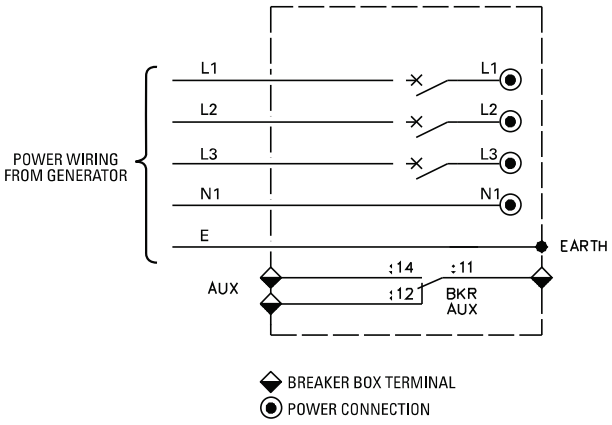


Figure 5





AUX – AUXILIARY CONTACTS SHT2 – 12/24 V SHUNT TRIP

Option SHT2 adds a DC operated shunt trip which can be used to automatically open the circuit breaker upon activation of a generator set shut down signal from the generator set control panel, or from a remote signal (supplied by others).

Option AUX adds an auxiliary changeover switch which can be used for remote indication of the circuit breaker status.

Market: N. America

LEHE4009 (01-05)

www.cat-ElectricPower.com

Cat® GC Control Panel

Image shown might 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.

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 0 V to 10 V & 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

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)

SPECIFICATION

DC SUPPLY
CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous
5 V for upto 1 minute

CRANKING DROPOUTS
Able to survive 0 V for 100 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
260 mA at 12 V, 150 mA at 24 V

MAXIMUM STANDBY CURRENT
145 mA at 12 V, 85 mA at 24 V

CHARGE FAIL/EXCITATION RANGE
0 V to 35 V

GENERATOR & MAINS (UTILITY) VOLTAGE RANGE
15 V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICKUP 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 & D
Configurable as:
Negative switching digital input 0 V to 10 V sensor
4 mA to 20 mA sensor Resistive sensor

ANALOGUE INPUTS B & C
Configurable as:
Negative switching digital input Resistive sensor

OUTPUTS
OUTPUT A & B (FUEL & START)
15 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H
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 CUT-OUT
184 mm x 137 mm
7.2" x 5.3"

MAXIMUM PANEL THICKNESS
8 mm
0.3"

STORAGE TEMPERATURE RANGE
-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE
-30°C to +70°C
-22 °F to +158 °F

Cat® GC ENCLOSURES

Image shown might not reflect actual configuration

SOUND ATTENUATED LEVEL 2 ENCLOSURES

D250GC – D600GC

60 Hz

FEATURES

Robust / Highly Corrosion Resistant Construction

- Factory installed on skid base or tanks base
- Environmentally friendly, polyester powder baked paint
- Enclosure constructed with 18-gauge steel
- Interior zinc plated fasteners
- Internally mounted exhaust silencing system
- Comply with ASCE/SEI 7 for Wind loads up to 100mph
- Designed and tested to comply with UL 2200 Listed generator set package

Excellent Access

- Large cable entry area for installation ease.
- Accommodates side mounted single or multiple breakers.
- Two doors on both sides.
- Vertically hinged allow 180° opening rotation
- Radiator fill cover.

Security and Safety

- Lockable access 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.
- Externally mounted emergency stop button (Optional).
- Designed for spreader bar lifting to ensure safety.
- Stub-up area is rodent proof.

Sound Attenuated Level 2

- Caterpillar white paint
- UL Listed integral fuel tank with 24 hours running time capacity (Optional).
- DC lighting package (Optional)

Cat® GC ENCLOSURES

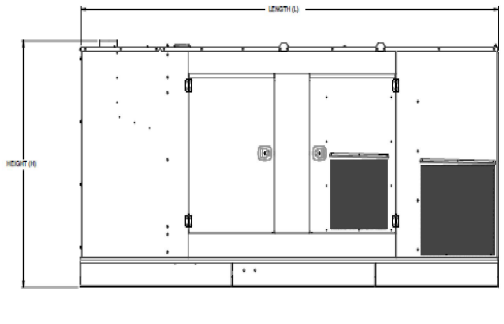
Enclosure Package Operating Characteristics

Enclosure Type	Standby ekW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft)
		m^3/s	cfm	°C	°F	100% Load
Level 2 Sound Attenuated Enclosure (Steel)	250	6.4	13561	57	135	74
	300	6.4	13561	51	125	74
	350	7.4	15680	57	134	71
	400	7.4	15680	53	127	71
	450	8.4	17692	54	130	73
	500	8.4	17692	50	122	73
	550	11.2	23731	56	133	73
	600	11.2	23731	53	127	73

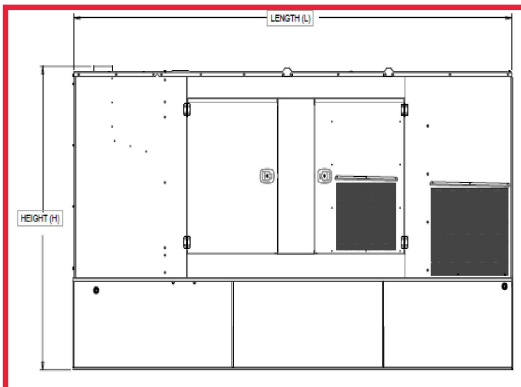
*Cooling system performance at sea level. Consult your Cat® dealer for site specific ambient and altitude capabilities.

Note: Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

DIMENSIONS



Sound Attenuated Enclosure on Skid Base



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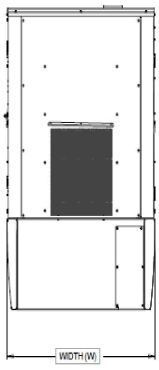


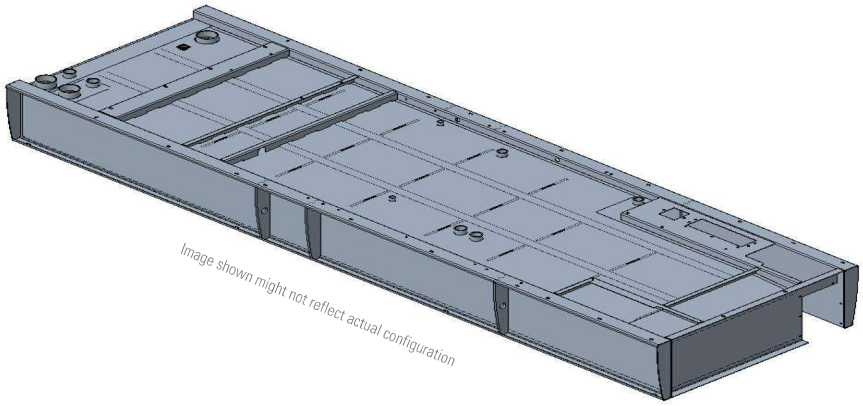
Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base

WEIGHTS & DIMENSIONS

Enclosure Type	Standby Ratings, ekW	Length, L		Width, W		Height, H		Package Weights	
		mm	in	mm	in	mm	in	kg	lb
Sound Attenuated Enclosure on Skid Base	250	3958	155.8	1440	56.7	1991	78.4	2857	6298.6
	300							2945	6492.6
	350	4633	182.4	1630	64.2	2227	87.7	3983	8781.0
	400							4017	8856.0
	450	4823	189.8	1630	64.2	2227	87.7	4408	9718.0
	500							4457	9826.0
	550	4980	196.1	1865	73.4	2172	85.5	4754	10480.8
	600							4837	10663.8
Sound Attenuated Enclosure on UL Listed Integral Fuel Tank Base	250	3958	155.8	1440	56.7	2487	97.9	3497	7709.6
	300							3585	7903.6
	350	4633	182.4	1630	64.2	2644	104.1	4765	10505.0
	400							4799	10580.0
	450	4823	189.8	1630	64.2	2777	109.3	5345	11783.7
	500							5394	11891.7
	550	4980	196.1	1865	73.4	2723	107.2	5973	13168.2
	600							6056	13351.2
Sound Attenuated Enclosure on UL Listed Extended Integral Fuel Tank Base	250	4608	181.4	1430	56.3	2379	93.7	3590	7914.6
	300							3678	8108.6
	350	5251	203.7	1620	63.8	2561	100.8	4876	10749.7
	400							4910	10824.7
	450	5909	232.6	1620	63.8	2612	102.8	5497	12118.8
	500							5546	12226.8
	550	6759	266.1	1865	73.4	2487	97.9	6237	13750.2
	600							6320	13933.2

LET'S DO THE WORK.™

Cat® GC FUEL TANKS



EXTENDED FUEL TANKS

D250 GC – D600 GC

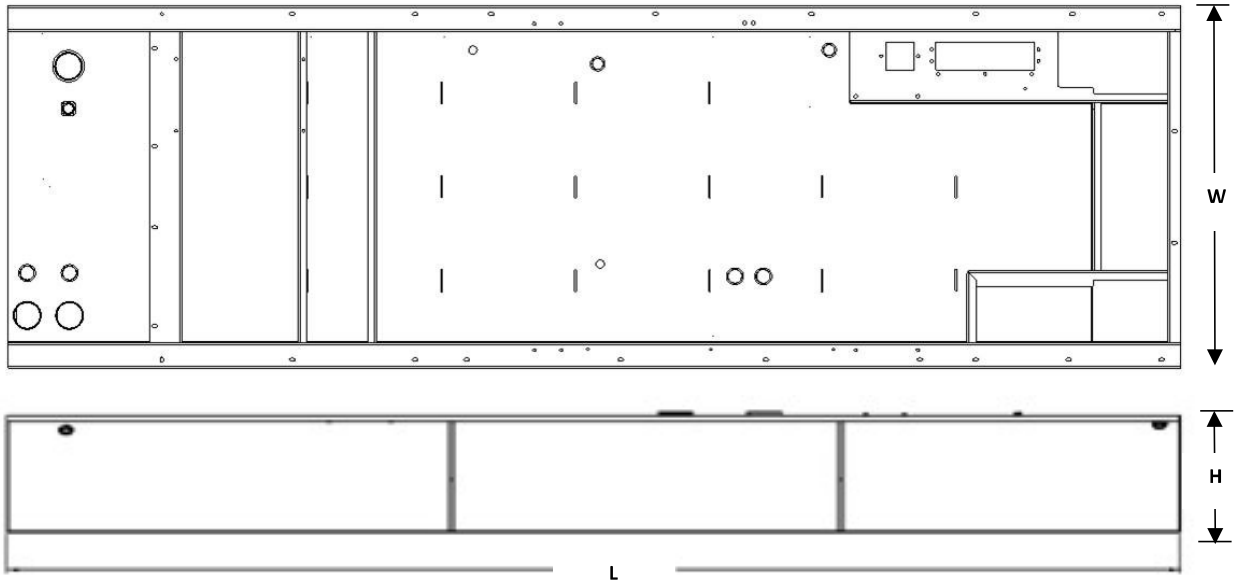
FEATURES

- 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 output
- Emergency vents on primary and secondary tanks are sized in accordance with NFPA 30.

OPTIONS

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

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

Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only								Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Width'W'		Open		Enclosure	
		Litre	Gallon	Litre	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in
Extended Tank	FTDW039	2341	618.4	2060	538.9	1075	2370	639	25.1	4608	181.4	1430	56.3	2095	82.4	2385	93.9
	FTDW040	2862	756	2540	671	1294	2852	586	23	5252	206.7	1620	63.8	2503	98.5	2563	100.9
	FTDW041	3633	959.7	3286	868.1	1506	3302	635	25	5910	228.7	1620	63.8	2291	90.1	2479	97.6
	FTDW042	4271	1128.2	3878	1024	1944	4285	585	23	6759	266.1	1865	73.4	2345	92.3	1957	77.0

B. Estimated Run Time (Hours)

Tank Design	Feature Code	Standby Ratings (kVA)						
		ekW	100%		75%		50%	
			Hrs	L/hr	Hrs	L/hr	Hrs	L/hr
Tank	FTDW039	250	28.1	73.3	35	35.0	47	47.0
		300	24	86	30.8	30.8	40	40.0
	FTDW040	350	26.9	94.3	31.2	81.9	42.4	60.2
		400	24.0	105.8	28.1	90.7	38.6	66.2
	FTDW041	450	25.0	131.7	31.3	106.1	42.0	79.1
		500	24.0	137	30.1	110.5	46.6	71.3
	FTDW042	550	25.7	151.1	32.9	118.1	45.2	86.1
		600	24.1	161.6	30.0	129.6	42.4	91.7

Tanks with full electrical stub-up area include removable end channel. Tanks with RH stub-up include stubup 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

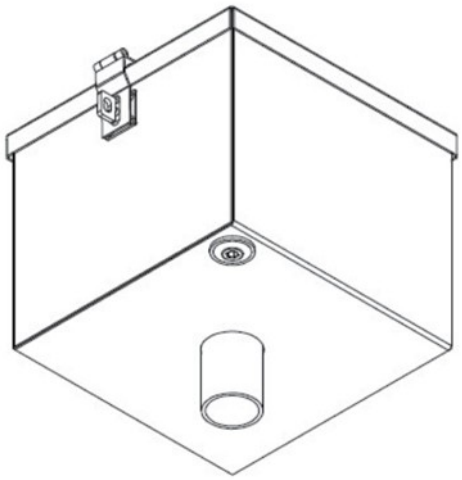


Image shown may not reflect actual configuration

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.

Image shown may not reflect actual configuration

Overfill Prevention Valve
for use with 5 and 7.5 Gallon Spill Containment

The overfill prevention valve is installed at the fill port of a fuel tank.

Used in a pressurized tight fill application, the valve helps prevent tank overfills by closing when the liquid level reaches shut off capacity level.

The overfill prevention valve can eliminate hazardous liquid spills.

Features

- Installs in a 2" NPT or 4" NPT opening
- Accepts pressure delivery of product
- Provides tanks with large fuel storage capacity at shutoff height
- Provides positive shut off of fuel
- Retro-fits to an existing AST*
- Mechanical in operation – no user interface required
- Compatible with diesel fuel
- Minimum operating pressure of 5 PSI
- Maximum operating pressure of 40 PSI

* Aboveground Storage Tank

Code Compliance

- UL listed, ULC listed

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 complaint

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
-40 °C to +70 °C
-22 °F to +158 °F

Cat® Batteries

Cat Batteries – Greater Starting Power – Lower Maintenance – Longer Life

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

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

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

Caterpillar. The difference counts.™

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 investments.

CATERPILLAR®

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 and have the industries highest cold cranking amps (CCA)
- Popular BCI group 31 Maintenance Free 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 available for truck, marine or recreational usage

Specifications for Cat Premium High Output Batteries – Available Worldwide

BCI Group Size	Part No.	Cold Cranking Amps"	Reserve Capacity Minutes'	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction	Add Water Maintenance Check Hours	BCI Overall Dimensions Length In (mm)	Width In (mm)	Height In (mm)	Nominal Weight Wet Lb (kg)	Dry Lb (kg)	Nominal Acid to Fill Qt (liter)
8D	153-5720	1500	465	12	210	C	MF	20.47 (520)	10.8 (275)	9.76 (248)	132 (60)	–	–
8D	101-4000	1400	400	12	190	LAC+	1000	20.7 (526.5)	10.96 (278)	9.76 (248)	132 (60)	86 (39)	18.0 (17.0)
4D	153-5710	1400	425	12	200	C	MF	20.47 (520)	8.58 (218)	9.76 (248)	119 (54)	–	–
4D	153-5700	1125	305	12	145	C	MF	20.47 (520)	8.58 (218)	9.76 (248)	101 (46)	–	–
4D	9X-9730	1300	400	12	190	LAC+	1000	20.75 (527)	8.58 (218)	9.76 (248)	119 (54)	81 (37)	14.8 (14.0)
4D	9X-9720	1000	275	12	140	LAC+	1000	20.75 (527)	8.58 (218)	9.76 (248)	101 (46)	59 (27)	15.9 (15.0)
31	175-4390	1000	180	12	90	C/S	MFA	12.9 (328.4)	6.74 (171.2)	9.29 (236)	60 (27)	–	–
31	175-4370	825	190	12	100	C/S**	MFA	12.9 (328.4)	6.74 (171.2)	9.29 (236)	60 (27)	–	–
31	175-4360	710	185	12	100	C/S***	MFA	12.9 (328.4)	6.74 (171.2)	9.29 (236)	60 (27)	–	–
31	**250-0480**	710	185	12	100	C/SDT***	MF	12.9 (328.4)	6.74 (171.2)	9.29 (236)	60 (27)	–	–
31	115-2422	1000	170	12	90	C SAE	MFA	12.9 (328.4)	6.74 (171.2)	9.46 (240.3)	60 (27)	–	–
31	115-2421	950	170	12	90	C SAE +	MFA	12.9 (328.4)	6.74 (171.2)	9.46 (240.3)	60 (27)	44 (20)	6.6 (6.2)
31	9X-3404	950	165	12	100	C SAE	MF	13 (330.2)	6.77 (172)	9.46 (240.3)	58 (26)	–	–
31	3T-5760	750	165	12	100	C SAE	MF	13 (330.2)	6.77 (172)	9.46 (240.3)	55 (25)	–	–
24	153-5656	650	110	12	52	SC	MF	10.98 (278.9)	6.85 (174)	9.0 (229.1)	39 (18)	–	–
65	230-6368	880	140	12	80	SC	MF	11.9 (303.4)	7.5 (190.8)	7.5 (191.4)	45.5 (21)	–	–
74	153-5660	650	110	12	52	SC*	MF	10.98 (278.9)	7.0 (178.2)	8.15 (206.9)	39 (18)	–	–
58	175-4280	500	70	12	35	SC	MF	9.96 (253.1)	7.2 (182.5)	6.9 (176)	31 (14)	–	–
2	153-5690	765	210	6	90	LAC+	1000	10.24 (260)	6.8 (173)	8.72 (221.6)	37 (17)	22 (10)	4.8 (4.5)

Construction Notes:
LAC = Low Maintenance, Hybrid Construction
C = Calcium Lead Alloy Grid Design
MF = Maintenance Free
MFA = Maintenance Free with Accessible Vent Caps
S = Stud Terminals
+ = Shipped Dry Only
* = Side Terminals
** = Starting and Deep Cycle Battery
*** = Deep Cycle and Starting Battery
" = For 30 seconds at 0° F (-18° C)
' = Minimum of 25 amp output at 80° F (27° C)
SAE = Uses SAE Posts
SDT = Dual, Top mounted Terminals, Stud and SAE Post, Marine Deep Cycle/Starting Battery
SC = Silver (Ag) Calcium Alloy Grids for resistance to high underhood temperatures

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.

100 Amp Load Center

Image shown may not reflect actual package.

100 Amp Load Center

Specifications	
Number of Spaces	6
System Voltage	120 / 240VAC
Number of Tandem Circuit Breakers	6
Phase	1 Ph
NEMA Degree of Protection	NEMA 3R Outdoor
Electrical Connection	Lugs
Wiring Configuration	3-Wire
Material	Tin Plated Aluminum Busbar
Enclosure Material	Welded Galvanized Steel
Cover Finish	Gray Baked Enamel
Product Certifications	UL E-6294
Gauge	AWG 8…AWG 1 (Aluminium / Copper)

Dimensions and Specifications	
Height / Width / Depth	321 mm / 226 mm / 127 mm
GFCI	16A (120V)
Battery Charger	6A (120V)
Jacket Water Heater	11.25A (240V)
Alternator Heater	1.04A (240V)
Total Load	34.29A Max

L1	
GFCI	16A (120V)
Jacket Water Heater	11.25A (240V)
Alternator Heater	1.04A (240V)
Total Load	28.29A Max

L2	
Battery Charger	6A (120V)
Jacket Water Heater	11.25A (240V)
Alternator Heater	1.04A (240V)
Total Load	18.29A Max

www.cat.com/electricpower

LEHE2075-02 (04/20)

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.

LED Lights

Image shown may not reflect actual package.

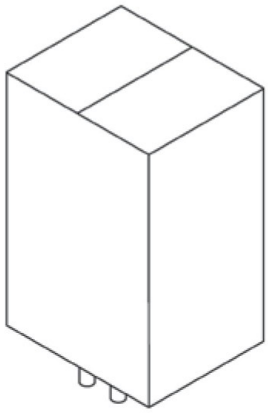
Features

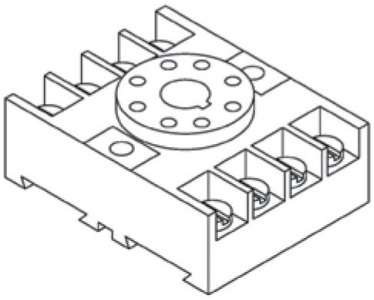
AC/DC Lighting Kit

- 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 two LED lights

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)

Engine-Run Relay





- 10 Amp contact rating
- 12 or 24 Volt DC input
- Contact open or closure on engine run

SPECIFICATIONS

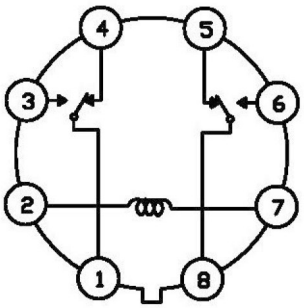
CONTACTS

- Type: DPDT
- Material: Silver
- Rating: UL
  10A @ 240VAC
  10A @ 30VDC

COILS

- Input Voltage: 24VDC
- Resistance: 400 Ohms
- Nominal Power: 1.5 W

PIN DETAIL



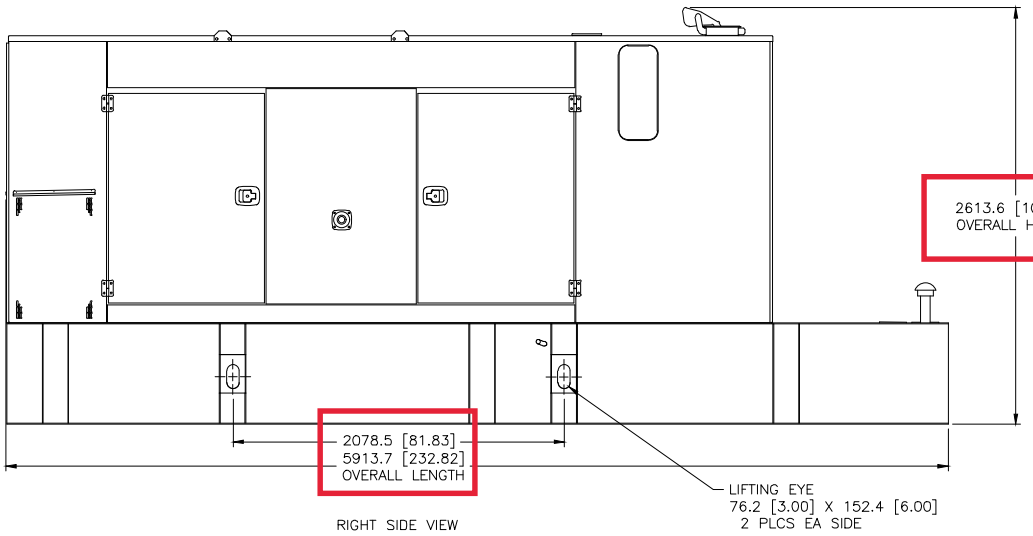
BUILT FOR IT.™

MECHANICAL DRAWINGS

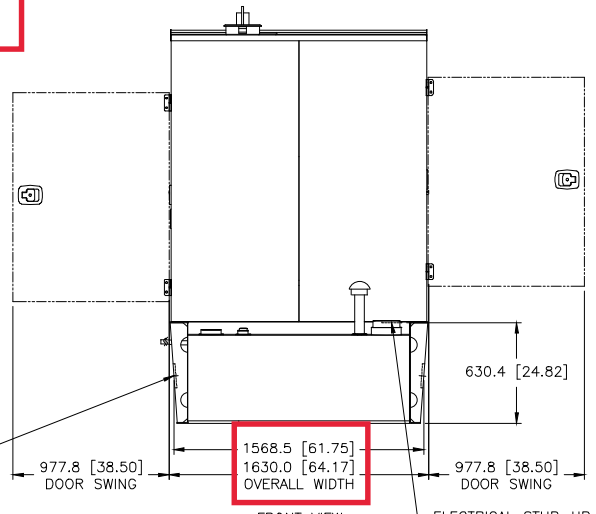
METRIC 605-9661

QTY	ENGINE CONNECTIONS	SIZE	SHEET
1	COOLANT DRAIN	ø19.1 [ø0.75] I.D.	2
1	EXHAUST	ø203.2 [ø8.00] O.D.	2
1	FUMES DISPOSAL HOSE	ø50.8 [ø2.00] O.D.	2,3
1	OIL DRAIN	ø25.4 [ø1.00] I.D.	2

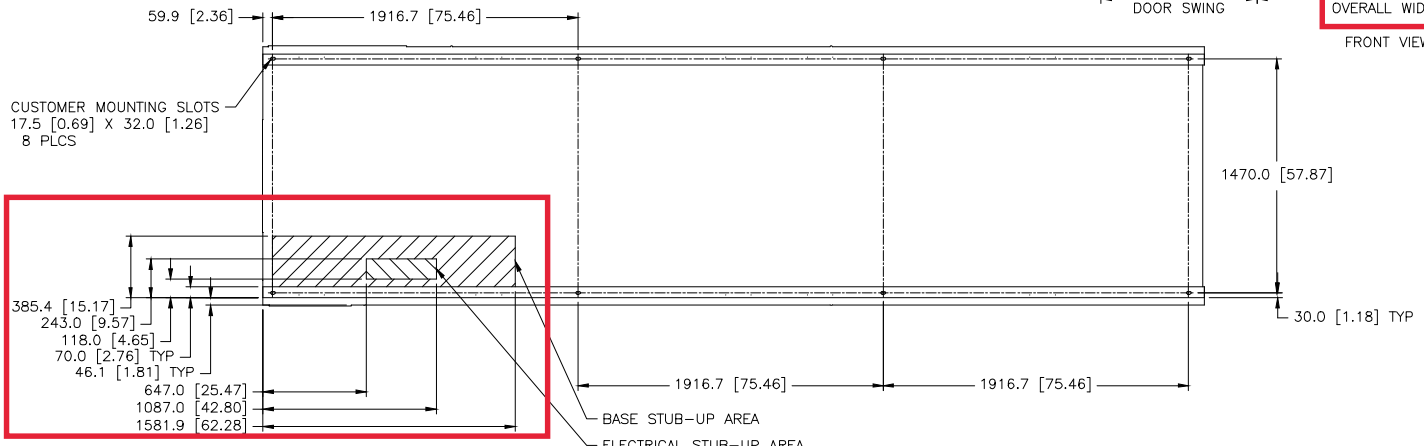
QTY	POSSIBLE TANK CONNECTIONS	SIZE	SHEET
1	BASIN TANK EMERGENCY VENT	6" NPT THD	3
1	MAIN TANK EMERGENCY VENT	6" NPT THD	3
1	FUEL INLET	1/2-14 NPTF THD	3
1	FUEL SUPPLY	1/2-14 NPTF THD	3
1	FUEL RETURN	1/2-14 NPTF THD	3
1	NORMAL VENT	2-11 1/2 NPTF	3
3	SPARE PORT	2-11 1/2 NPTF	3



RIGHT SIDE VIEW



FRONT VIEW



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

MODEL	TYPE	PRICING AR	TANKBASE	ENCLOSURE
C15	Y	LS-3977 CHG 00	LS-4052 CHG 00	LS-3859 CHG 00
		LS-3978 CHG 00		
		LS-3979 CHG 00		
		LS-3980 CHG 00		

PACKAGE LIFTED IN 4 PLCS ON TANKBASE

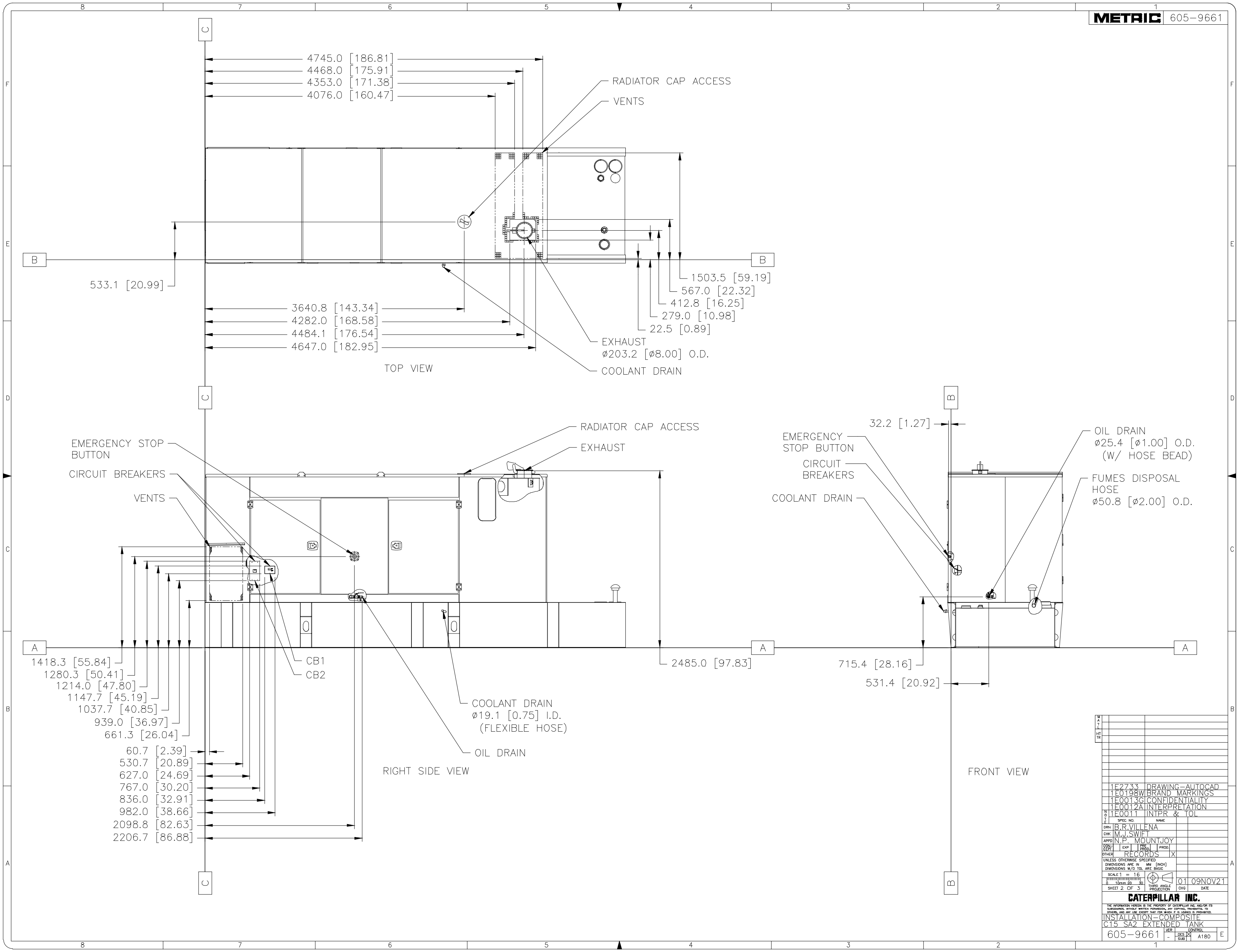
PACKAGE SHOWN IN MORE DETAIL ON SHEETS 2 THRU 3

1E2733 DRAWING-AUTOCAD
1E0198 BRAND MARKINGS
1E0013 CONFIDENTIALITY
1E0012 INTERPRETATION
1E0011 INTPR & TOL

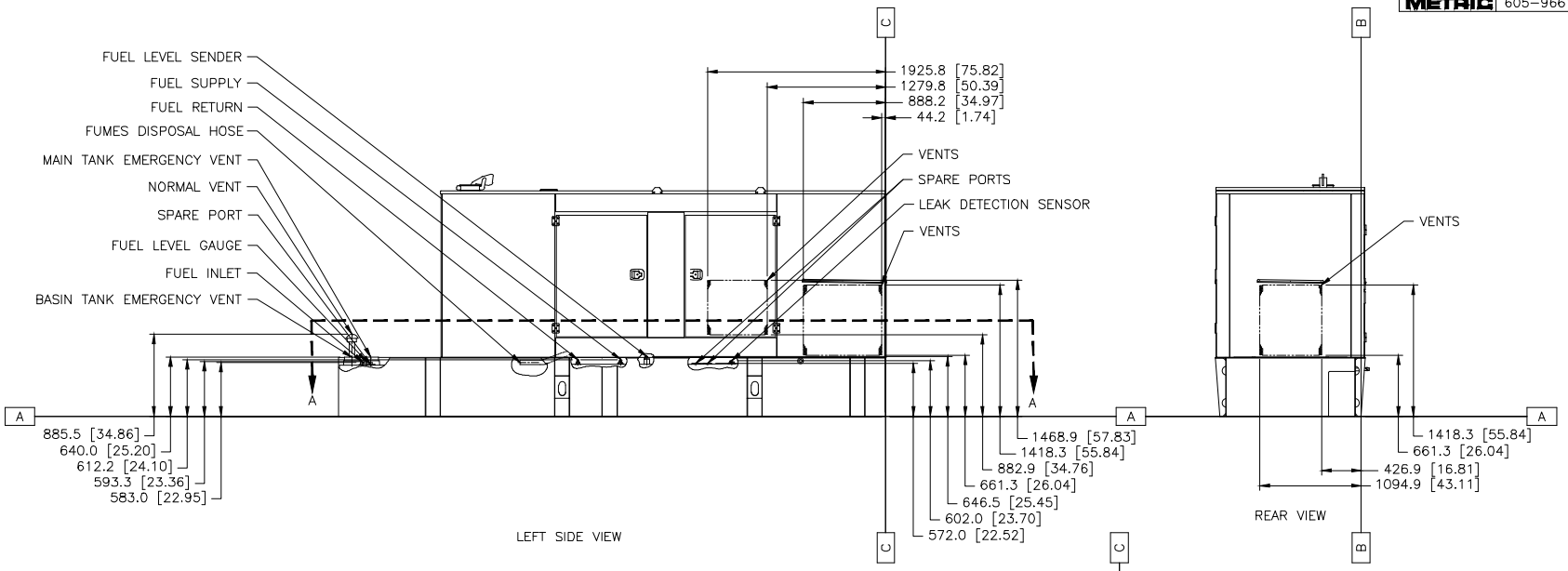
DRN B.R.VILLENA
CHK M.J.SWIF
APVD N.P. MOUNTJOY
RECORDS
SCALE 1 = 10
SHEET 1 OF 3
01 09NOV21

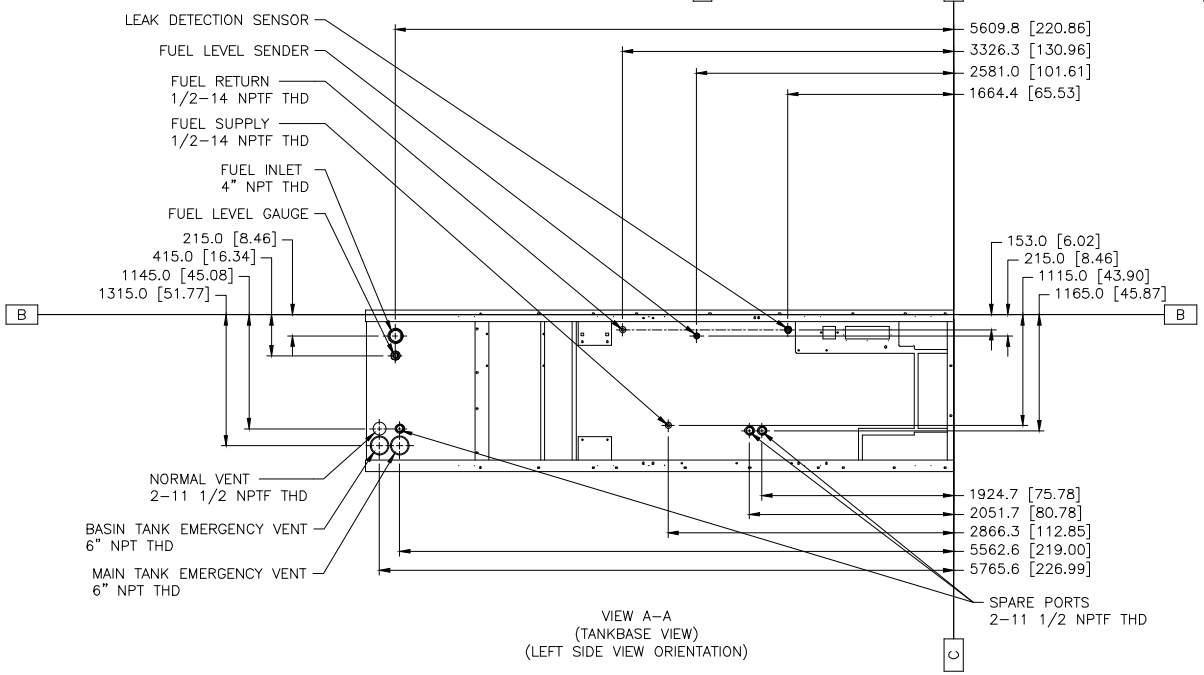
CATERPILLAR INC.

INSTALLATION-COMPOSITE
C15 SA2 EXTENDED TANK
605-9661 A180


METRIC 605-9661
4745.0 [186.81]
4468.0 [175.91]
4353.0 [171.38]
4076.0 [160.47]
RADIATOR CAP ACCESS
VENTS
533.1 [20.99]
1503.5 [59.19]
567.0 [22.32]
412.8 [16.25]
279.0 [10.98]
22.5 [0.89]
3640.8 [143.34]
4282.0 [168.58]
4484.1 [176.54]
4647.0 [182.95]
EXHAUST
ø203.2 [ø8.00] O.D.
COOLANT DRAIN
TOP VIEW
RADIATOR CAP ACCESS
EXHAUST
EMERGENCY STOP BUTTON
CIRCUIT BREAKERS
VENTS
1418.3 [55.84]
1280.3 [50.41]
1214.0 [47.80]
1147.7 [45.19]
1037.7 [40.85]
939.0 [36.97]
661.3 [26.04]
CB1
CB2
2485.0 [97.83]
COOLANT DRAIN
ø19.1 [0.75] I.D.
(FLEXIBLE HOSE)
OIL DRAIN
60.7 [2.39]
530.7 [20.89]
627.0 [24.69]
767.0 [30.20]
836.0 [32.91]
982.0 [38.66]
2098.8 [82.63]
2206.7 [86.88]
RIGHT SIDE VIEW
32.2 [1.27]
EMERGENCY STOP BUTTON
CIRCUIT BREAKERS
COOLANT DRAIN
OIL DRAIN
ø25.4 [ø1.00] O.D.
(W/ HOSE BEAD)
FUMES DISPOSAL HOSE
ø50.8 [ø2.00] O.D.
715.4 [28.16]
531.4 [20.92]
FRONT VIEW
1E2733 DRAWING-AUTOCAD
1E0198W BRAND MARKINGS
1E0013G CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TOL
B.R.VILLENA
M.J.SWIFT
N.P. MOUNTJOY
RECORDS
SCALE 1 = 16
SHEET 2 OF 3
THIRD ANGLE PROJECTION
01 09NOV21
CATERPILLAR INC.
INSTALLATION-COMPOSITE
C15 SA2 EXTENDED TANK
605-9661
A180
E

METRIC 605-9661





1E2733 DRAWING-AUTOCAD
1E0198 BRAND MARKINGS
1E0013 CONFIDENTIALITY
1E0012 INTERPRETATION
1E0011 INTPR & TOL

SPEC NO.	NONE	
DRN	B.R.VILLENA	
CHK	M.J.SWIF	
APVD	N.P. MOUNTJOY	
DEPT	RECORDS	
OTHER		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM [INCH] DIMENSIONS W/O TOL ARE BASIC
SCALE 1 = 16
SHEET 2 OF 3
THIRD ANGLE PROJECTION
01 09NOV21

CATERPILLAR INC.

INSTALLATION-COMPOSITE
C15 SA2 EXTENDED TANK

605-9661 | - | A180 | E

ELECTRICAL DRAWINGS

THIS DIAGRAM IS FOR GC GENSET MODELS (250kW to 600kW)

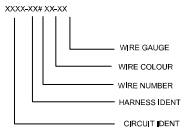
FOR USE WITH : C9, C13, C15 & C18 ENGINES

6310 CONTROLLER

SIGNAL NAMES

CIRCUIT_ID	COLOR	DESCRIPTION
10	WH	AVR_SUPPLY_X2_(SHUNT)
101	RD	UNFUSED_BTRY_(+)
105	WH	(+)24V_DC)_ECM_SUPPLY
108	WH	(+)24V_DC)_PANEL_SUPPLY
123	WH	FUSED BTRY +
14	WH	AVR_SUPPLY_X1_(PMG)
146	WH	(+)24 VDC) LIGHTING_SUPPLY
15	WH	AVR_SUPPLY_X2_(PMG)
16	WH	AVR_SUPPLY_Z1_(PMG)
200	GN-YL	GROUND
208	WH	BATTERY (-)
229	WH	CLEAN_GROUND
344	WH	EMERGENCY_STOP
345	WH	EMERGENCY_STOP
346	WH	EMERGENCY_STOP
347	WH	EMERGENCY_STOP
348	WH	EMERGENCY_STOP
5+	WH	GENERATOR_EXCITATION_(+)
6-	WH	GENERATOR_EXCITATION_(-)
870	WH	REMOTE_START_INPUT
892	BK	CAT_DATA_LINK_(-)
893	WH	CAT_DATA_LINK_(+)
9	WH	AVR_SUPPLY_X1_(SHUNT)
951	WH	MODBUS A
952	BK	MODBUS B
953	CU	MODBUS COM
954	WH	DSENET A
955	BK	DSENET B
956	CU	DSENET SCREEN
SCR	CU	SCREEN
A359	WH	DIGITAL_INPUT_(GENSET RUNNING)
A666	WH	ENCLOSURE_LIGHTING
A774	WH	EMERGENCY_STOP
A775	WH	EMERGENCY_STOP
AC101	WH	FUSED BTRY CHARGER (L)
AC102	WH	BTRY CHARGER (L)
AC103	WH	ALT HEATER BREAKER
AC104	WH	ALT HEATER BRSLNKER
AC139	WH	BTRY CHARGER (N)
AC703	WH	ALT HEATER RELAY (11)
AC719	WH	ALT HEATER RELAY (12)
AC720	WH	ALT HEATER TERM
E486	WH	SENSING_VOLTAGE-PHASE_A
E487	WH	SENSING_VOLTAGE-PHASE_B
E488	WH	SENSING_VOLTAGE-PHASE_C
E494	WH	CT_SENSING-PHASE_A
E495	WH	CT_SENSING-PHASE_B
E496	WH	CT_SENSING-PHASE_C
E498	WH	CT_SENSING-COMMON
F600	WH	GROUND FAULT RELAY
F601	WH	GROUND FAULT RELAY
F409	WH	SENSING_VOLTAGE-NEUTRAL
F430	WH	DIGITAL_INPUT_(D)
F434	WH	GEN_PHASE_A
F435	WH	GEN_PHASE_B
F436	WH	GEN_PHASE_C
N756	WH	HORN_OUTPUT
P733	WH	ANALOG_I/P_SIGNAL_(FUEL LEVEL)
R954	WH	BREAKER_SHUNT_TRIP
R958	WH	DIGITAL_OUTPUT_(SHUNT_TRIP)
R959	WH	DIGITAL_OUTPUT_(ENCLOSURE_LIGHTS)
X961	WH	STARTER_MAG_SWITCH
Y797	YL	J1939_DATALINK_(CAN_+)
Y798	BK	J1939_DATALINK_(CAN_-)
Y799	CU	J1939 DATALINK (CAN SHLD)
Y983	WH	DIGITAL_INPUT_(LOW_COOLANT_LEVEL)
Y984	WH	DIGITAL_INPUT_(FUEL_I_EAK)
Y985	WH	DIGITAL_INPUT_(ENCLOSURE_LIGHTS)

WIRE NAME DEFINITION



COLOUR ABBREVIATIONS

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

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
AC	ALTERNATING CURRENT
AVR	AUTOMATIC VOLTAGE REGULATOR
BATT	BATTERY
CR	CONTROL RELAY
DC	DIRECT CURRENT
ECM	ENGINE CONTROL MODULE
ECR	ENGINE CRANK RELAY
ELR	ENVELOSURE LIGHTS RELAY
E-STOP	EMERGENCY STOP
FLS	FUEL LEVEL SENDER
GFR	GENERAL FAULT RELAY
GND	GROUND
GRR	GENERATOR RUNNING RELAY
LCL	LOW COOLANT LEVEL
MCB	MINIATURE CIRCUIT BREAKER
PMG	PERMANENT MAGNET GENERATOR
STR	SHUNT TRIP RELAY
TERM	PANEL TERMINAL
VFC	VOLT FREE CONTACT

SYMBOL LEGEND TABLE

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

INDEX TABLE

SHEET INDEX	DESCRIPTION
1	CROSS REFERENCE SHEET INDEX, NOTES
2	CONTROL SCHEMATIC
3	POWER SCHEMATIC
4	OPTION SCHEMATIC
5	OPTION SCHEMATIC (CONTINUED)
6	CUSTOMER CONNECTIONS AND COMPONENT DETAILS ,
	-

HARNESS LAYER TABLE

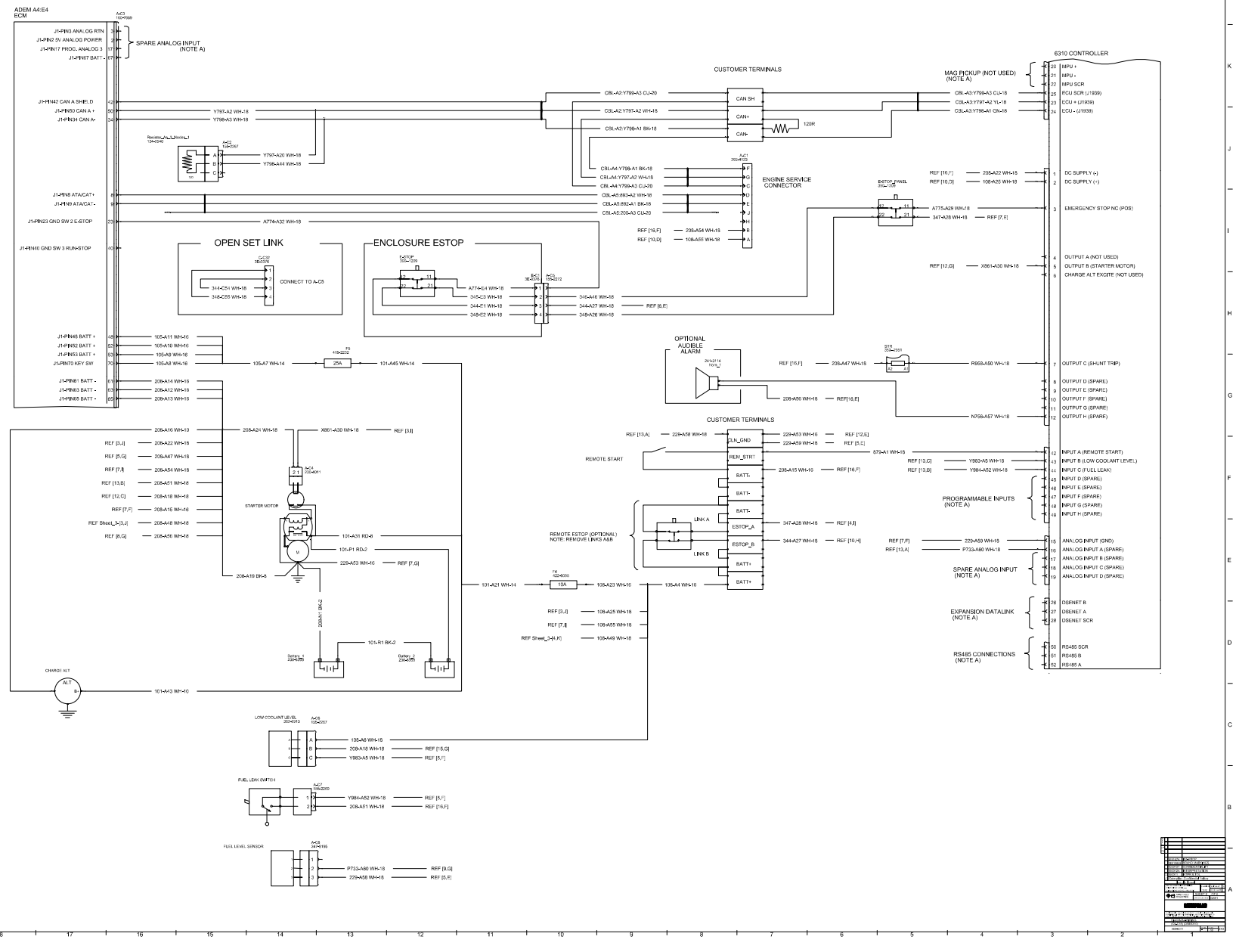
IDENT	PART NO	CHG	LOC	DESCRIPTION	NOTE
HARNESS AS.	-	-	-	-	-
A	573-5793	02	SH 2	MAIN HARNESS (C9-C13)	
A	573-5795	02	SH 2	MAIN HARNESS (C15-C18)	
AN	575-6913	01	SH 4	ANNUNCIATOR HARNESS	
B	577-5429	01	SH 4	PL.G 641 & 601 HARNESS (RS485)	
C	583-7678	01	SH 2	E-STOP LINK (OPEN SET)	
CE	581-0536	00	SH 5	LC BATTERY CHARGER	
CD	577-5711	00	SH 5	CR CT	
CF	581-0537	00	SH 5	LC ALT HEATER	
E	572-5798	02	SH 2	E-STOP HARNESS (ENCLOSED SET)	
EL	583-3699	01	SH 4	CANOPY LIGHTS HARNESS	
ER	575-7682	01	SH 5	BATTERY CHARGER HARNESS	
GF	581-1832	01	SH 5	GROUND FAULT RELAY INDICATION HARNESS	
GR	579-3092	00	SH 4	GENSET RUNNING & COMMON ALARM	
PG	443-4637	00	SH 1	PMG ADAPTOR	
T	577-3830	00	SH 4	PL.G 641 & 601 HARNESS (POWER)	
RC	583-8419	01	SH 5	ALTERNATOR HEATER HARNESS	
AX	TBA	-	SH3	1200A CB AUX CONTACT HARNESS	
FT	TBA	-	SH3	1200A CB SHUNT TRIP HARNESS	
Y	555-4851	00	SH 5	PL.G CANBUS HARNESS	
	-	-	-	-	-
WIRE AS. / CABLE AS.	-	-	-	-	-
N	-	-	SH 2	BATTERY NEGATIVE	
P	-	-	SH 2	BATTERY POSITIVE	
R	-	-	SH 2	BATTERY LINK	
SEE SHEET 3	-	-	SH 2	400A POWER CABLES	
SEE SHEET 3	-	-	SH 3	800A POWER CABLES	
SEE SHEET 3	-	-	SH 3	800A POWER CABLES	
SEE SHEET 3	-	-	SH 3	1200A POWER CABLES	

NOTE A: FACTORY WIRING NOT PROVIDED AS STANDARD. REFER TO MANUFACTURER INSTALLATION INSTRUCTIONS.

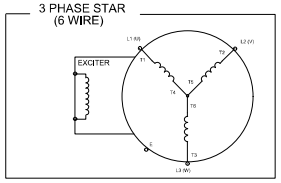
NOTE B: CONTACT OPEN IN DE-ENERGIZED STATE OR FAULT CONDITION.

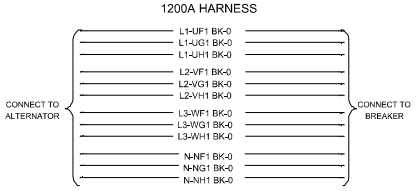
NOTE C: RESISTOR TO BE REMOVED IF ADDITIONAL EXPANSION MODULES ARE CONNECTED.

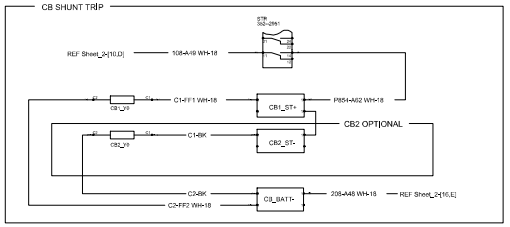
CONTROL SCHEMATIC (DSE 6310)

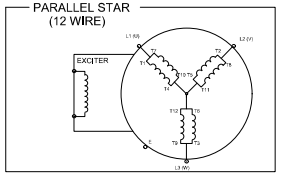


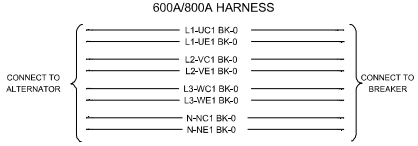
POWER SCHEMATIC

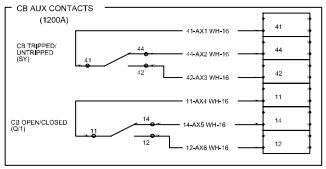


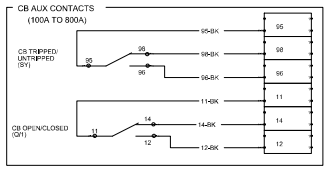


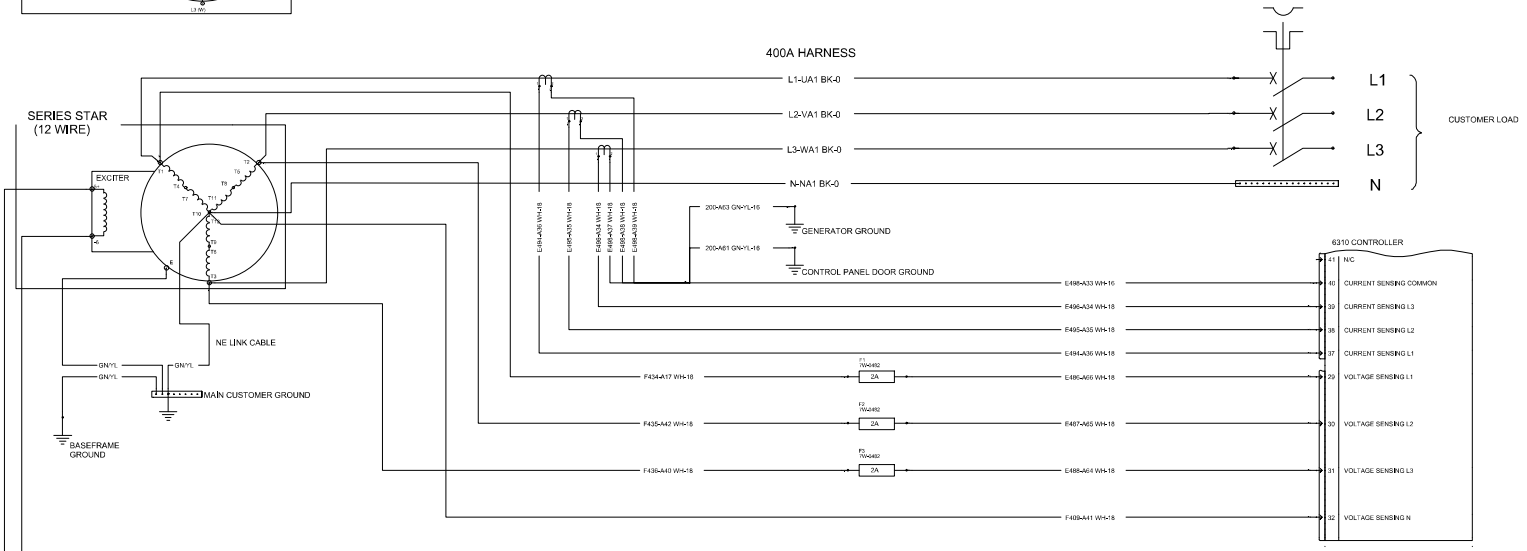


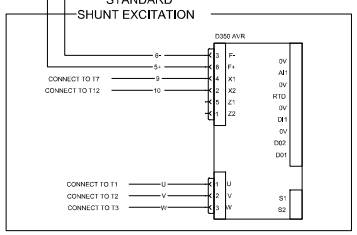


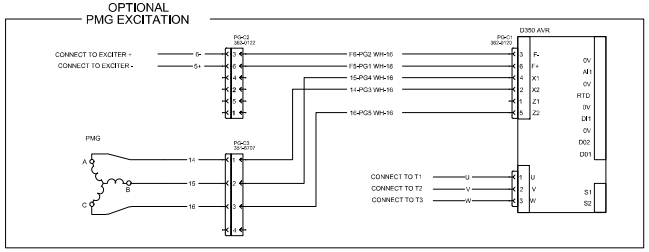






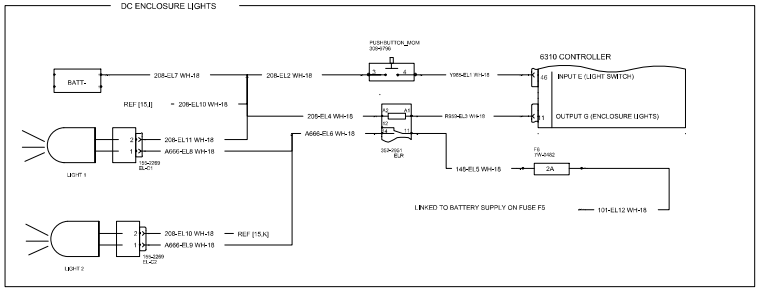




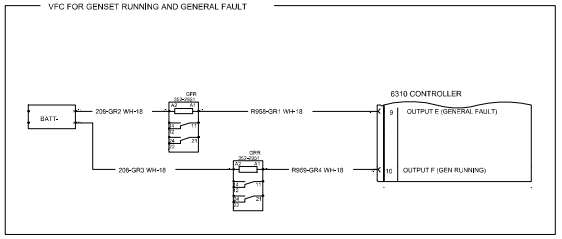


ADDITIONAL OPTIONS

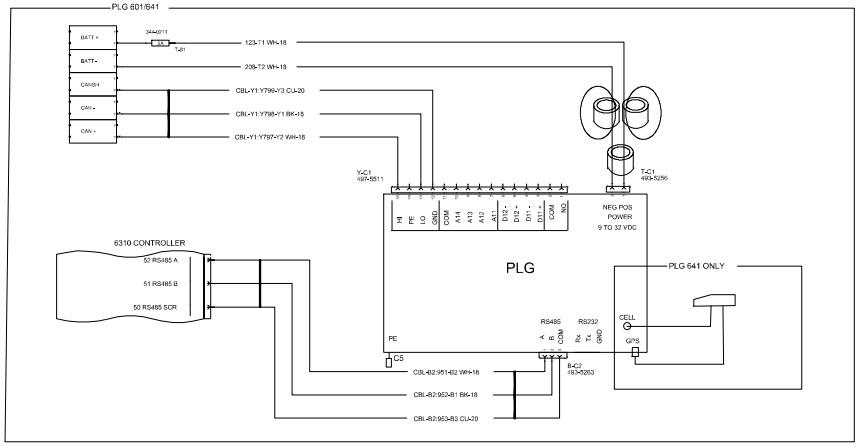
OPTIONAL
DC ENCLOSURE LIGHTS



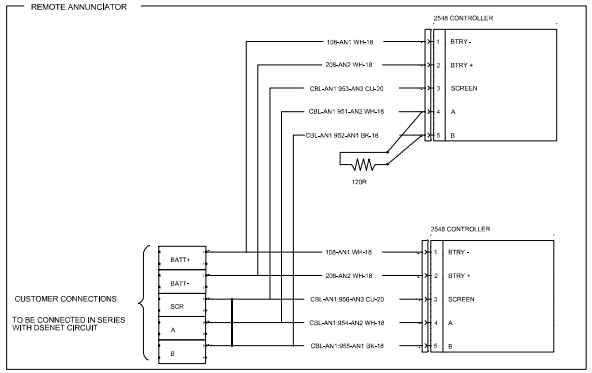
OPTIONAL
VFC FOR GENSET RUNNING AND GENERAL FAULT



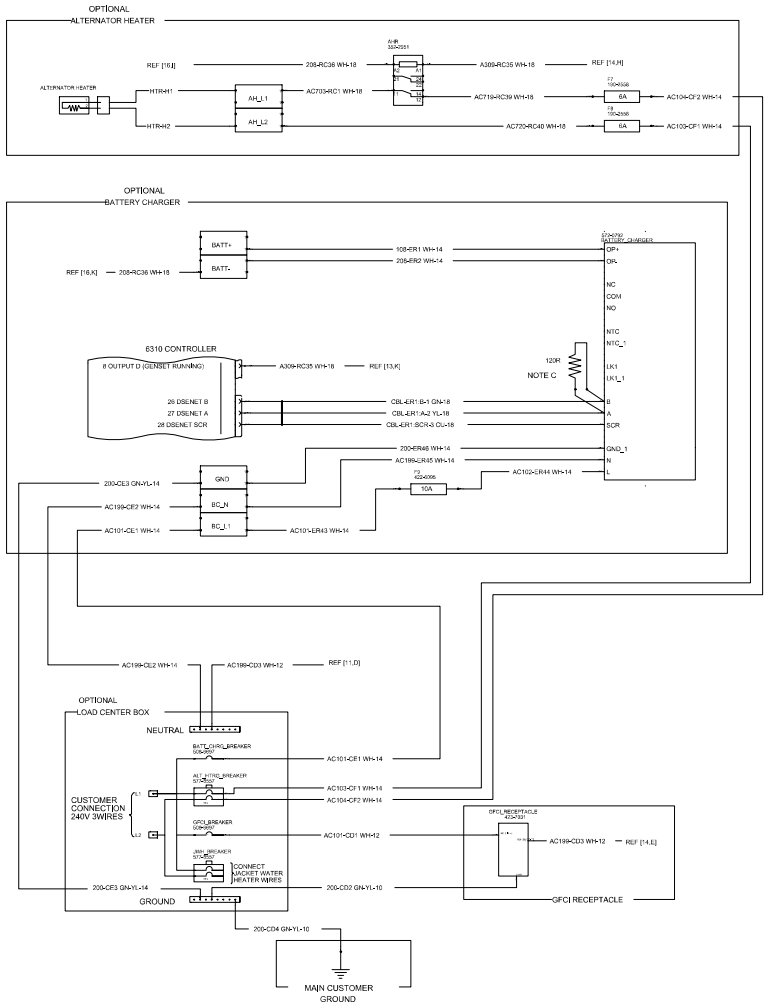
OPTIONAL
PLG 601/641

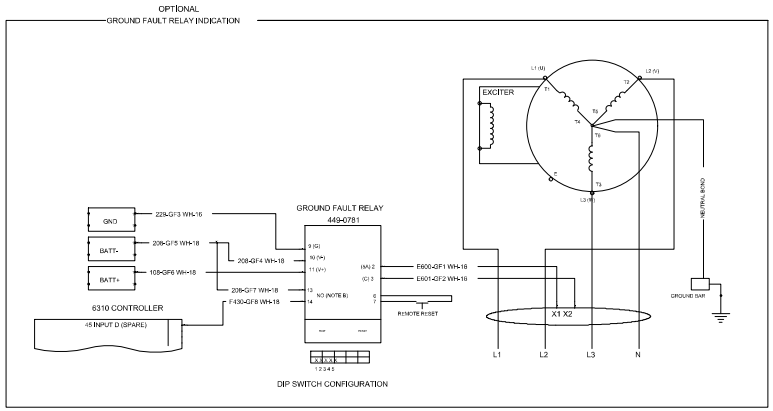


OPTIONAL
REMOTE ANNUNCIATOR



ADDITIONAL OPTIONS

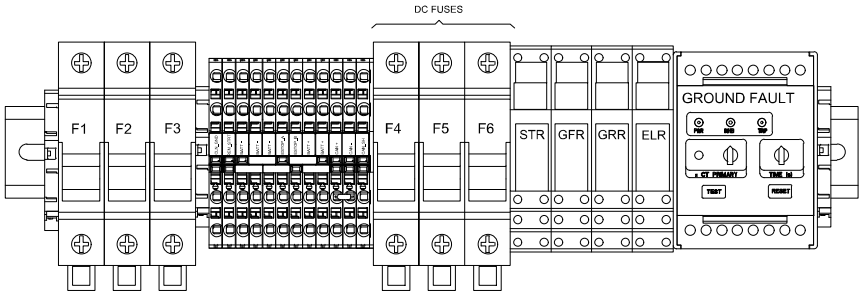




ADDITIONAL INFORMATION - COMPONENT DETAILS & CUSTOMER CONNECTIONS

MAIN CUSTOMER RAIL (OPTIONS INCLUDED)

FUSE ID	CURRENT RATING	WIRE ID	DESCRIPTION
F4	50A	101, 108	PANEL SUPPLY
F5	25A	101, 105	ECM POWER
F6	2A	116, 101	ENCLOSURE LIGHTS

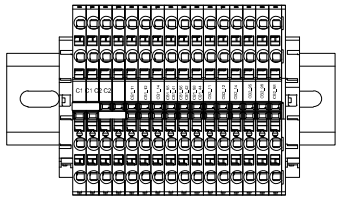


FUSE ID	CURRENT RATING	WIRE ID	DESCRIPTION
F1	2A	F434, F486	1 SENSING AC
F2	2A	F435, F487	2 SENSING AC
F3	2A	F436, F488	3 SENSING AC

TERMINAL ID	WIRE ID	DESCRIPTION
CLN_GND	239	CLEAN GROUND FOR ANALOG INPUTS
REM_STRT	878	REMOTE START INPUT
BATT -	206	BATTERY NEGATIVE
BATT -	206	BATTERY NEGATIVE
BATT -	206	BATTERY NEGATIVE
ESTOP_A	347	ECM ESTOP INPUT
ESTOP_B	344	GENSET CONTROLLER ESTOP INPUT
BATT +	105	BATTERY POSITIVE (10A FUSED)
BATT +	105	BATTERY POSITIVE (10A FUSED)
CAN +	7797	CAN + COMMS
CAN-	7798	CAN - COMMS
CAN SH	7799	CAN SH COMMS

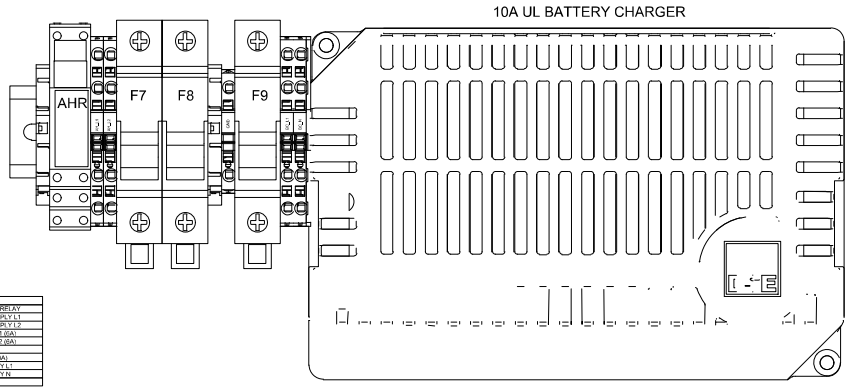
RAIL	CURRENT RATING	DESCRIPTION
STR	5A	SHUNT TRIP RELAY
GFR	5A	GENERAL FAULT RELAY
GRR	5A	GENSET RUNNING RELAY
ELR	5A	ENCLOSURE LIGHTS RELAY

CIRCUIT BREAKER RAIL (OPTIONS INCLUDED)



TERMINAL ID	WIRE ID	DESCRIPTION
CB1_ST+	C1	CB1 SHUNT TRIP
CB2_ST+	C1	CB2 SHUNT TRIP
BATT-	C2	BATTERY NEGATIVE
11	11	CB1 AUX COM
12	12	CB1 AUX NO
14	14	CB1 AUX NC
5541	5541	CB1 AUX COM
5542	5542	CB1 AUX NO
5544	5544	CB1 AUX NC
11	11	CB2 AUX COM
12	12	CB2 AUX NO
14	14	CB2 AUX NC
95	95	CB2 AUX COM
96	96	CB2 AUX NO
98	98	CB2 AUX NC

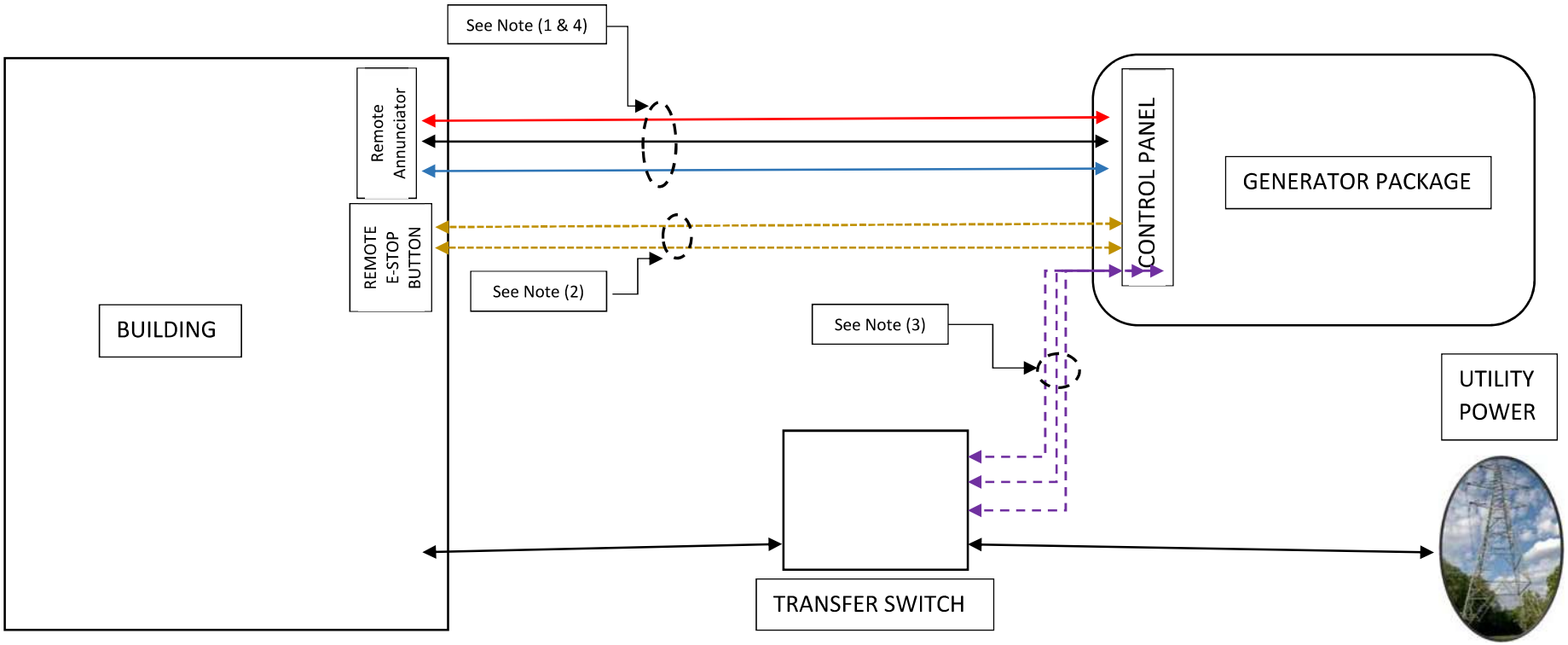
SHORE POWER RAIL (OPTIONS INCLUDED)



COMPONENT	DESCRIPTION
AHR	ALTERNATOR SPACE HEATER RELAY
AH_L1	ALTERNATOR HEATER AC SUPPLY L1
AH_L2	ALTERNATOR HEATER AC SUPPLY L2
F7	ALTERNATOR HEATER FUSE L1 (6A)
F8	ALTERNATOR HEATER FUSE L2 (6A)
SNO	SHORE POWER GROUND
F9	BATTERY CHARGR FUSE L1 (10A)
BC_L1	BATTERY CHARGER AC SUPPLY L1
BC_N	BATTERY CHARGER AC SUPPLY N

GENERAL
WIRE PULL

HOLT CAT Wire Pull Recommendations



Note 1: IF a Remote Annunciator is present:

- (1) 14 - 16 AWG Stranded for Battery connection (Positive, Red cable)
- (1) 14 - 16 AWG Stranded for Battery connection (Negative, Black cable)
- (1) 18 Gauge 3-Wire Shielded – RS485 annunciator cable CAT part number 379-1796 or equivalent – See page 3 for cable specs (NOTE: It is recommended to always run cable in conduit)

Note 2: IF remote E-Stop Button is present:

- (2) 14ga. STRANDED Wires from generator control panel to the E-Stop Button location (NO COLOR REQUIRMENT)

Note 3: Wiring between Generator and ATS

- (6) 14ga. STRANDED Wires from generator control panel to the ATS for auto-start wiring (NO COLOR REQUIRMENT)
    - Auto start, EPS Supply and Load, 1 spare set – 3 pairs

Note 4: IF a SECOND Remote Annunciator is present this wire pull must be in between the annunciators (daisy-chained):

- (1) 14 - 16 AWG Stranded for Battery connection (Positive, Red cable)
- (1) 14 - 16 AWG Stranded for Battery connection (Negative, Black cable)
- (1) 18 Gauge 3-Wire Shielded – RS485 annunciator cable CAT part number 379-1796 or equivalent – See page 3 for cable specs (NOTE: It is recommended to always run cable in conduit)

Note 5: Shore power must be installed. See below for examples on Shore Power requirement. On site electricians need to make sure that when they make those wire pulls that the size of the cable and the breaker supplying the power are sized properly.

Shore Power Examples

Note: Information taken from the cut sheets in the submittal

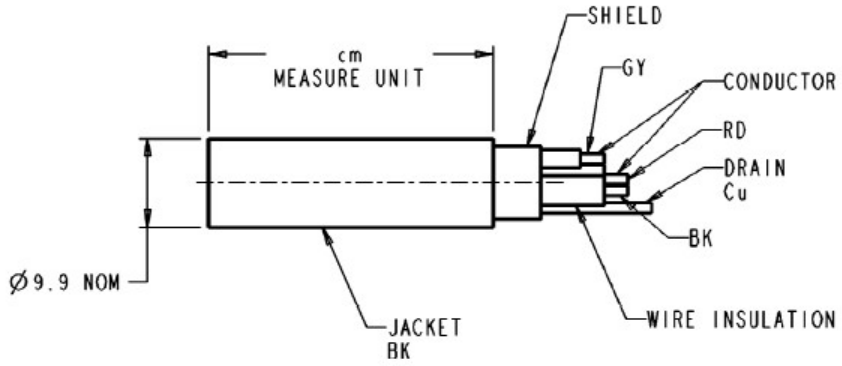
Example 1: A C18, 750kW packaged generator set, 480V, 3phase, with the following additional equipment. Space heater, 20A GFIC Receptacles, 240V Jacket Water Heater, 125A Load Center and a 10A Battery Charger.

- Since shore power will be run to the load center, it's best to run a 125A, 120/240V Single phase circuit to it.

Example 2: A D200, 200kW packaged generator set, 208V, 3phase, with the following additional equipment. 1800 watt, 120V Jacket Water Heater, and a 10A Battery Charger.

- First you need to find the number of amps of the Jacket Water Heater. The formula is as follows: Amps = watts / Voltage, or 1800 / 120 = 15A
- Now you add the 10A from the battery charger and the 15A from the jacket water heater to come up with a total of 25A.

METRIC 379-1796



CABLE	3 CONDUCTOR W/ DRAIN AND SHIELD BK AND RD CONDUCTORS ARE TWISTED	
CONDUCTOR	18 GA (COPPER 16 X 30 STRAND)	
WIRE INSULATION	POLYETHYLENE	
JACKET	THERMOPLASTIC ELASTOMERS	
DRAIN	18 GA COPPER 16 X 30	
SHIELD	ALUMINUM FOIL	
MINIMUM BEND RADIUS	35	
OPERATING TEMP RANGE	-40°C TO +80°C	
IMPEDANCE	120±10 Ω	
CAPACITANCE	11±10% pf/FT	
VOLTAGE	600 V	
CERTIFICATION	UL 758/CANADIAN STANDARD ASSOCIATION	

CERTIFICATION
NO DEVIATION OR CHANGES WITHOUT ENGRG APPROVAL

NOTE B: ASTM B3, ASTM B33, ASTM B172

INTENDED USE FOR THIS CABLE IS RS485 COMMUNICATION

MATL	B	IE1541F	WROUGHT MATL
HT TR			
		IE4246D	ROHS
		IE2722F	DRAWING
		IE2442J	APPROVAL
		IE2442A	APPROVAL
		IE0507D	IDENT
		IE0198T	BRAND MARKINGS
		IE0013Y	CONFIDENTIALITY
NOTE		IE0011	INTPR & TOL

Caterpillar: Confidential Yellow

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X / SECONDARY

THIRD ANGLE PROJECTION

SHEET 1 OF 1

DWG CONTROL A544

CATERPILLAR

CABLE-BULK (ELECTRICAL)
(RS485)

379-1796 VER - CHG 01 B