

GAS PKG. GEN SET (I)
LAFAYETTE, INDIANA

Ship Weight
lbs

List Price
At Factory

Product Consist:

PRICING INFORMATION

These prices are manufacturer suggested resale prices and are subject to change without notice. Shipment will usually be made from source of manufacture, or at factory discretion. Attachment prices are for attachments installed as original equipment unless otherwise specified.

Net price items are subject to no further discounts.

All prices are installed list prices unless otherwise specified.

SHIPMENT DATE SPECIFIC PRICING IS BEST FOUND THROUGH THE CSQ QUOTING TOOL.

List Price at Factory

AVAILABILITY

For product availability go to Power Net at <https://engines.cat.com>
Under the quick links, select Engine Availability Letters.

GLOSSARY OF TERMS

For product abbreviations go to Power Net at <https://engines.cat.com>
Under the quick links, select TMI Web. Once in TMI select Abbreviations, listed under TMI Definitions.

DESIGN TO ORDER (DTO)

Orders requiring special engineering (referred to as DTO) will require additional process time. This time is over and above normal order processing or product availability.

Attachments listed in the price list are NOT interchangeable between sales models or applications. If attachments are required for a particular model or configuration but are not listed as compatible for this model in a specific price list, the order will require a DTO. This is true even when the same attachment or configuration has been ordered in the past.

A DTO will require an application and installation (A & I) marketing quote. For further information contact the Application Support Center.

Requests for special ratings not listed in the Price List should also be sent to the Application Support Center. If the special rating is possible, it may also require a DTO and could require additional processing time if the appropriate details have not yet been established.

Please keep this information in mind when discussing or quoting approximate availability to your customers.

DTO quotes are typically valid for six (6) months. If the quote expires, regardless if it has been ordered or not, a new DTO quote will be required before an order can be placed.

DEALER SPECIFIC PRICING TERMS

To obtain the latest specific conditions from Caterpillar to

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DEALER SPECIFIC PRICING TERMS (CONT.)

individual Cat dealers please use Engine Order Management Process (EOMP) quoting and order tools like ISA or CSQ. For questions or special requests, please contact your Caterpillar representative.

TECHNICAL PERFORMANCE DATA

Technical performance data and Engine rating information is available in Power Net at <https://engines.cat.com>.

Gas Engine Rating Program(GERP) can be downloaded at <https://engines.cat.com/epgerp>.

Under the quick links, select TMI Web. Once in TMI select TMI Performance Definitions.

To request dealer specific authorization, please follow links to Engine Order Management Process (EOMP) at Caterpillar Power Net (<https://engines.cat.com>). CWS logon id is needed to access Power Net.

RATINGS GUIDE

The EPG Ratings Guide may be ordered through Media Logistics by calling + 1 (800) 566-7782 or + 1 (309) 266-0942.

Gas Engine Rating Program(GERP) can be downloaded at <https://engines.cat.com/epgerp>.

The current EPG Ratings Guide media number for Cat Generator Sets is LEXE7582 or LEXE7581 for Olympian Generator Sets.

Current EPG ratings are also available by accessing the Electronic Media Center at <https://emc.cat.com> and on Power Net at <https://engines.cat.com>, select Electric Power then select References/Sales Tools.

GENERAL INFORMATION

G3512 Engine
Caterpillar Gas Engine Control Module (GECM)
(Based upon ADEM4 Module)
Features include:
Fuel/air ratio control
Start/stop logic:
Gas purge cycle
Staged shutdown
Engine Protection Systems:
Detonation Sensitive Timing
High exhaust temperature shutdown
(For a complete listing check sales technical or service literature.)
Governor (See Governor below.)
Transient Richening and Turbo Bypass Control
Ignition (See Ignition below.)

AIR INLET SYSTEM

Two single-stage air-cleaners mounted on the package with service indicators standard on this Genset.

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COOLING SYSTEM

See TMI for heat rejection data and pump performance -
JW and SCAC Engine-Driven pumps
JW and SCAC thermostats
Package mounted radiator
LH or RH connections when radiator is not selected

EXHAUST SYSTEM

Dry interior exhaust manifold.
Flange faced outlet on turbocharger.
Individual exhaust port and turbocharger outlet wired
to Integrated Temperature Sensing Module (ITSM) with GECM
providing alarms and shutdowns.

FUEL SYSTEM

Engine-installed electronic fuel control valve.
Throttle plate, electronically controlled 24V DC actuator;
controlled by Gas Engine Control Module.
Fuel train is required to be installed on the package at the time of
installation and is offered as standard.
Gas trains contain the following parts:
24V DC Energized-To-Run (ETR) Gas Shutoff Valve.
Fuel filter
Gas pressure regulator
Flexible connection to the Engine Fuel inlet
Fuel system is sized for 31.5 to 47.2 MJ/nM3 (800 to 1200 btu/cu ft)
dry pipeline natural gas
Standard or low pressure fuel offering will need
to be selected based on the site fuel pressure.

GENERATORS AND GENERATOR ATTACHMENTS

3-phase brushless, salient pole
6 lead
IEC Platinum Stator RTDs (.00385 Temp coefficient)
Winding and Bearing temperature detectors
Anti-Condensation space heaters
Generator set packages include Caterpillar-s Digital Voltage
Regulator (CDVR)
CDVR includes reactive droop capability, 3-phase voltage sensing,
KVAR/PF modes, RFI suppression, min/max exciter.
Limiter and exciter diode monitor.

LV:

1400 Frame Generators
Random and Form Wound available
Permanent Magnet Excitation
NEMA Class H insulation
Temp Rises available at 40C ambient: 80C, 105C, 125C, 150C
NEMA standard hole pattern.

MV:

1400 Frame Generators
Form Wound
Permanent Magnet Excitation
NEMA Class H insulation
Temp Rises available at 40C ambient: 80C, 125C

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GENERATORS AND GENERATOR ATTACHMENTS (CONT.)

NEMA standard hole pattern.

GOVERNING SYSTEM

ADEM A4 speed governor with 4 to 20 ma (0V to 5V) speed input.
Redundant Shutdown (Overspeed protection through a duplicate speed sensing system).

IGNITION SYSTEM

Electronic Ignition System (controlled by ADEM A4)
Individual Cylinder Detonation Sensitive Timing (DST)

INSTRUMENTATION

Rear mounted customer interface including EMCP4.3 controller that includes:

24-volt DC operation
Environmental sealed front face
Text alarm/event descriptions
Kilowatt transducer output

Controls:
Speed/ Voltage adjust
Auto/start/stop control
Alarm acknowledge
Emergency stop pushbutton
Customer Warning/Shutdown Lamp test
True RMS AC metering, 3-phase, + /-2% accuracy
Remote monitoring and Control capability

Warning/shutdown with common LED indication of shutdowns with indicating lights for:

Low oil pressure
High/Low coolant temperature
High engine oil temp
Low, High and weak battery voltage
Overspeed
Failure to start (Overcrank)
Emergency stop
Loss of sensing
Air filter restriction
Impending shutdown

Digital indication for:
RPM
DC volts
Operating hours
Oil pressure (psi, kPa or bar)
Volts (L-L & L-N), frequency (Hz)
Amps (per phase & average)
Two (2) dedicated digital inputs
Twelve (12) Programmable digital inputs
Two (2) dedicated digital outputs
Sixteen (16) programmable digital outputs

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INSTRUMENTATION (CONT.)

Environmental:

Control module operating temperature:-40C to 70C

Display operate: - 20C to 70C

Humidity: 100% condensing 30C to 60C

Storage temperature: -40C to 85C

Vibration: Random profile, 24-1000Hz, 6.0G rms

Generator protection:

Generator phase sequence

Over/Under voltage

Over/ Under frequency

Reverse power(kW)

Reverse reactive power(kVar)

Over current

Current balance

Over/Loss of Excitation

Generator temperature detectors

The Quick Starting Guide will be provided with the package documentation. Additional copies may be ordered through Media Logistics by calling + 1 (800) 566-7782 or + 1 (309) 266-0942.

The quick starting guide media number for Cat Generator Sets is LEXE0187-00. The Quick starting guide is also available by accessing the Electronic Media Center at <https://emc.cat.com> and on Power Net at <https://engines.cat.com>, select Electric Power then select References/Sales Tools.

LITERATURE

English (CD Rom with product documentation)

More Language Literature available as optional

LUBE SYSTEM

Lubricating oil is available as an option

Gear type lube oil pump.

Oil filter, filler and dipstick.

Integral lube oil cooler.

Oil drain lines and valve.

Crankcase breather.

Fumes disposal.

Positive crank ventilation.

(This is not developed for landfill/ digester gas applications)

(Optional, Shipped loose)

MOUNTING SYSTEM

Rails - Engine/Generator/Radiator mounting

Rubber anti-vibration mounts (Optional, Shipped loose)

Spring anti-vibration mounts (Optional, Shipped loose)

Seismic anti-vibration mounts (Optional, Shipped loose)

STARTING/CHARGING SYSTEM

24V starting motors.

Battery disconnect switch

Jacket water heater is required:

Customer can provide or see JW heater options in the

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STARTING/CHARGING SYSTEM (CONT.)

mandatory Jacket Water Heater section
Optional 45-amp, 24V charging system alternator
Battery with rack and cables are available as an option
(shipped loose)

GENERAL

Paint--Caterpillar Yellow except rails Gloss Black rails & radiator.
Flywheel SAE No. 21, Flywheel housing SAE No. 00.
SAE Standard Rotation.
NOTE: "Stationary Use Only Label": Effective January 2004, the US EPA Nonroad Mobile SI rule restricts the use of SI gas engines in the United States. Caterpillar's Gas Engines are not certified for mobile applications within the US and are to be used in "stationary use only" applications. All gas engines will have this label attached regardless of the dealer placing the order.

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BASE ENGINE CONFIGURATIONS

Must select one.

Base Engine configurations are the starting point to build a runnable genset. To arrive at a total price for a runnable genset, you will need to add the MANDATORY and OPTIONAL component pricing to the Base Engine Configuration price.

60 HERTZ, 1800 RPM ENGINE

I	512GE34	<p>G3512 60 HZ ENGINE 0</p> <p>Stationary Certified 1095 bkW, 1800RPM, JW Temp = 99 C, AC Temp 1st/2nd = 99C/54C Includes engine JW and SCAC Pumps EPA Certified for Stationary Use Only This engine is intended for sale and use within the United States and/or only areas where EPA Stationary Emergency regulations apply. This configuration is optimized for fast starting.</p>	\$358,620
I	512GE35	<p>G3512 60 HZ ENGINE 0</p> <p>Stationary Certified 831 bkW, 1800RPM, JW Temp = 99 C, AC Temp 1st/2nd = 99C/54C Includes engine JW and SCAC Pumps EPA Certified for Stationary Use Only This engine is intended for sale and use within the United States and/or only areas where EPA Stationary Emergency regulations apply. This configuration is optimized for fast starting.</p>	\$269,366

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I	512GE36 G3512 60 HZ ENGINE 0 NON-Certified 1095 bkW, 1800 RPM, JW Temp = 99 C, AC Temp 1st/2 nd = 99 C/54 C Includes engine JW and SCAC Pumps NOx selectable engine from 0.5 to 2.0 g/bhp-hr This configuration is optimized for fast starting.		\$358,620
I	512GE37 G3512 60 HZ ENGINE 0 NON-Certified 831 bkW, 1800 RPM, JW Temp = 99 C, AC Temp 1st/2 nd = 99 C/54 C Includes engine JW and SCAC Pumps NOx selectable engine from 0.5 to 2.0 g/bhp-hr This configuration is optimized for fast starting.		\$269,366

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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EMISSION CERTIFICATION

Emission Certification

MUST SELECT ONE

I	CERTESE	EPA STATIONARY EMERGENCY 0 Meets USA Environmental Protection Agency (EPA) Stationary Emergency Certifications for Stationary Use only during defined emergency conditions. Fuel must be Pipeline Natural Gas; Operation on field gas is NOT permitted. Refer to setup instructions REHS9723 - Initial Setup for Certified G3512 Generator Set Engines. Outside EPA-regulated territories and in Guam, American Samoa or the Commonwealth of the Northern Mariana Islands, these restrictions do not apply.		NC
I	NOTCERT	NON CERTIFIED ENGINE 0 Engine is not USA Environmental Protection Agency (EPA) certified from the factory. Engine is NOx configurable depending on local emission requirements. NOx selectable from 0.5 to 2.0 g/bhp-hr		NC

UL2200 LISTING

UL2200 Listing

UL Standard Of Safety For stationary engine generator assemblies of 600 Volts or less REQUIRE:

- * Generator with a temp rise of 125 C or less.
- * UL listed voltage regulator.
- * Neutral ground connection

MUST SELECT ONE

I	ULLIST	UL 2200 LISTED PACKAGE GEN SET 0		\$173 NET
I	NONULL	NON-UL2200 LISTED GENSET 0		NC

ENGINE PACKAGE DESCRIPTION

GENERATORS

Must select one.

Includes generator, generator set controls, rails, and other components. Temp Rise Ratings shown are at the listed power and 0.8pf.

60Hz, 1800RPM, 440/480V

I	PGNLV01	GENERATOR RW 440/480V 0 TECHNICAL: 440/480 volts @ 60 hertz 80C Temp Rise @ 440/480V and 750kW 105C Temp Rise @ 480V and 1000kW 125C Temp Rise @ 440V and 1000kW Generator Argt = 252-3778 1424 Frame Random Wound		\$56,738
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ENGINE PACKAGE DESCRIPTION (CONT.)

GENERATORS (Cont.)

I	PGNLV02	GENERATOR RW 440V/480V 0 TECHNICAL: 440/480 volts @ 60 hertz 80C Temp Rise @ 440V/480V and 750kW 80C Temp Rise @ 480V and 1000kW 105C Temp Rise @ 440V and 1000kW Generator Argt = 252-3794 1445 Frame Random Wound		\$59,063
I	PGNLV03	GENERATOR FW 440V/480V 0 TECHNICAL: 440/480 volts @ 60 hertz 80C Temp Rise @ 440V/480V and 750kW 80C Temp Rise @ 480V and 1000kW 105C Temp Rise @ 440V and 1000kW Generator Argt = 252-3924 1467 Frame Form Wound		\$72,831
I	PGNLV04	GENERATOR RW 440V/480V 0 TECHNICAL: 440/480 volts @ 60 hertz 80C Temp Rise @ 440V/480V and 750kW 125C Temp rise @ 480V and 1000kW 150C Temp rise @ 440V and 1000kW Generator Argt = 252-3762 1402 Frame Random Wound		\$53,341

60Hz, 1800RPM, 600V

I	PGNLV05	GENERATOR RW 600V 0 TECHNICAL: 600 volts @ 60 hertz 80C Temp rise @ 600V and 750kW 105C Temp rise @ 600V and 1000kW Generator Argt = 252-4112 1424 Frame Random Wound		\$59,372
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60Hz, 1800RPM, 4160V

I	PGNMV01	GENERATOR FW 4160V 0 TECHNICAL: 4160 volts @ 60 hertz 80C Temp rise @ 2400V/4160V and 750kW 125C Temp rise @ 2400V/4160V and 1000kW Generator Argt = 252-3954 1465 Frame Form Wound		\$72,610
I	PGNMV02	GENERATOR FW 4160V 0 TECHNICAL: 4160 volts @ 60 hertz 80C Temp rise @ 2400V/4160V, 750kW and 1000kW Generator Argt = 252-3958 1487 Frame Form Wound		\$78,344

60Hz, 1800RPM, 2400V

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ENGINE PACKAGE DESCRIPTION (CONT.)

GENERATORS (Cont.)

I	PGNMV03	GENERATOR FW 2400V 0 TECHNICAL: 2400volts @ 60 hertz 80C Temp rise @ 2400V/4160V and 750kW 125C Temp rise @ 2400V/4160V and 1000kW Generator Argt = 252-3954 1465 Frame Form Wound		\$73,228
I	PGNMV04	GENERATOR FW 2400V 0 TECHNICAL: 2400/4160 volts @ 60 hertz 80C Temp rise @ 2400V/4160V, 750kW and 1000kW Generator Argt = 252-3958 1487 Frame Form Wound		\$78,964

VOLTAGE INDICATORS

Voltage Indicators - select one

All package gen set orders REQUIRE a voltage be specified. Choose the appropriate voltage feature code from the following list based on frequency and generator arrangement being ordered.

60 Hertz Voltage Indicators

I	60H0440	440V, Wye Connection, 60Hz 0 TECHNICAL: Wye Connection		NC
I	60H0480	VOLTAGE INDICATOR 480V (WYE) 0 TECHNICAL: Wye connection.		NC
I	60H0600	VOLTAGE INDICATOR 600V (WYE) 0 TECHNICAL: Wye Connection		NC
I	60H2400	VOLTAGE INDICATOR 2400 VOLT 0 TECHNICAL: Delta connection.		NC
I	60H4160	VOLTAGE INDICATOR 4160V (Wye) 0 TECHNICAL: Wye connection.		NC

Special Voltage Indicator

I	VLIND1	VOLTAGE INDICATOR - SPECIAL 0 TECHNICAL: Non-standard voltage, frequency & connection to be specified in custom quote on order.		NC
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APPLICATION INDICATORS

Application Indicators - select one.

Provides power setting and name plate for use in specified applications.

I	STANDBY	STANDBY POWER APPLICATION 0 For use in standby duty applications.		NC
I	CONTINU	CONTINUOUS POWER APPLICATION 0 For use in continuous duty or load management applications. REQUIRES: GENT080 or GENT105 ONLY FOR USE WITH: 512GE36 or 512GE37		NC

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MARKET SEGMENTATION

Market Segmentation - select one.

I	MSEPGGS	END USE: GENERAL EPG GAS 0 All gaseous fueled, spark ignited generator sets utilized in the generation of electrical power and or combined heat and power applications including cogen, trigen, and quadgen. These gas genset products are applied in, but not limited to commercial, industrial, agricultural, utility, public and civil service sectors. These products are often leveraged in utility applications, food processing plants, landfill sites, agriculture livestock facilities, wastewater treatment plants, biofuel manufacturing plants, communication sites, data centers, commercial/residential buildings, manufacturing plants, greenhouses, and mining sites. These gensets are often applied in base load, load management, and standby applications. This category should not be used for EP Rental, Petroleum, Locomotive or Marine electric power applications.		NC
I	MSPMDXQ	END USE: RENTAL EPG 0 All generator sets (diesel and gas) utilized in the generation of electrical power for the application rental. This includes all standard open and enclosed products that will support rental fleets as well as specific EP Rental products (XQ & XQE). This category should not be used in conjunction with Diesel & Gas EPG (non-rental), Petroleum EPG, Locomotive EPG or Marine Auxiliary applicaitons.		NC
I	MSPETDR	PETROLEUM DRILLING 0 Engines, transmissions and packages used to drill oil and gas wells (including auxiliary GEN Sets mounted on drill rigs). This includes Petroleum, Industrial, EPG, and Marine price list products.		NC
I	MSPETPG	PETRO LAND PRODUCTION/PMPING 0 All engines utilized in the generation of mechanical and electrical power for exploration, recovery and transmission of petroleum products including gathering, production, pumping, and refining, (but not gas compression or drilling). Applications include camp power, emergency gen sets (non-drilling), prime power at production and storage facilities, cranes, fire pumps, air compressors, primary or secondary recovery systems such as down hole pumps, water flood or disposal systems, etc. This includes rental products which fit Petroleum Production/Pumping market segment description. This includes industrial, marine, and EPG price list products.		NC
I	MSPETOD	PETRO OFFSHORE DRILLING 0 Engines and genset packages used as main sources of power for drilling duty or for emergency power on offshore oil & gas drill rigs (but not on production rigs, platforms, or facilities). Does not include firepumps or cranes for drilling or production rigs, platforms, or facilities.		NC

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ENGINE RATING AND SPEED

ENGINE RATING AND SPEED

Select one of the following ratings.
60 Hertz

Special Setting Request

I	PSTSPCL	SPECIAL SETTING REQUEST	0	NC
I	KW00750	50 HZ @ 1500 RPM	0	NC
I	KW01000	1000 EKW W/FAN	0	NC

Emissions Selection

Select one of the following.

I	EMISS11	OPTIONAL EMISSIONS - 60 Hz	0	NC
		TECHNICAL: 0.5 g/bhp hr		
I	EMISS12	STANDARD EMISSIONS - 60 Hz	0	NC
		TECHNICAL: 1 g/bhp hr		
	EMISS26	OPTIONAL EMISSIONS - 60 HZ	0	NC
		TECHNICAL: 2 g/bhp hr		
	EMISS27	EPA STATIONARY EMISSIONS-60 Hz	0	NC
		TECHNICAL: 2 g/bhp hr EPA Stationary Certified		

CHARGING SYSTEM

CHARGING ALTERNATORS

Must select one:

I	NOALT01	CHARGNG ALTERNATOR NOT DESIRED	0	NC
I	ALT2438	CHARGING ALTERNATOR 24V 45 AMP	0	\$1,611

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CIRCUIT BREAKERS

Optional Package Mounted Circuit Breakers (LV)

For use with Low voltage generators only.

LSI Long-Time, Short-Time, Instantaneous

LSI-P Long-Time, Short-Time, Instantaneous, Ground Fault Annunciate

Ground trip units include an external sensor, shipped loose,
for customer mounting.

LSIG-P Long-Time, Short-Time, Instantaneous, Ground Fault Protect,
Ground Fault Annunciate.

Ground trip units include an external sensor, shipped loose,
for customer mounting.

Must select one.

Feature Code Template:

The following chart may be referenced to determine circuit breaker
features by the listed feature code:

1st Digit Frame

M MasterPact - Fixed Mount

R R-Frame Breakers - Multiple location

P P-Frame Breakers- Multiple location

2nd Digit Operation

E Electrically operated

M Manually operated

3rd Digit Trip Unit

S LSI

G LSIG

P LSIG-P

4th Digit Type

3 3-pole (IEC 947-2 rated)

1 100% rated, 3-pole (UL/CSA/IEC)

5th Digit Rating

IEC UL

I 4000 4000

6th Digit Quantity

1 ONE

7th Digit Location

R Right-hand mounted

L Left-hand mounted

B Rear (back) mounted

Example: Feature code = MES111B

1st digit: M = Masterpact.

2nd digit: E = Breaker is electrically operated.

3rd digit: S = Breaker includes an LSI trip unit.

4th digit: 1 = Breaker is 100% rated, 3= pole (UL/CSA/IEC)

5th digit: I = Breaker is rated for 4000 amps.

6th digit: 1 = One breaker is mounted at the listed mounting location.

7th digit: B = Breaker is rear mounted on the package genset.

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CIRCUIT BREAKERS (CONT.)

1200 Amp, 3 Pole, UL-100% Rated Circuit Breakers
 Provides 1200A, UL-100% rated, P-Frame Model, molded case circuit breaker with auxiliary contacts, shunt trip and load take-off bus. Breakers are electrically operated unless otherwise stated. Adjustable range between 1.0 to 0.4 of the breaker setting.

Right Mounted

I	PES1D1R	RIGHT MOUNTED 0	\$8,311
		TECHNICAL: Adds LSI and EO.	
I	PEG1D1R	RIGHT MOUNTED 0	\$8,934
		TECHNICAL: Adds LSI and EO.	
I	PEP1D1R	RIGHT MOUNTED 0	\$9,807
		TECHNICAL: Adds LSI-P and EO.	

Left Mounted

I	PES1D1L	LEFT MOUNTED 0	\$8,311
		TECHNICAL: Adds LSI and EO.	
I	PEG1D1L	LEFT MOUNTED 0	\$8,934
		TECHNICAL: Adds LSI and EO.	
I	PEP1D1L	LEFT MOUNTED 0	\$9,807
		TECHNICAL: Adds LSI-P and EO.	

Rear Mounted

I	PES1D1B	REAR MOUNTED 0	\$8,311
		TECHNICAL: Adds LSI and EO.	
I	PEG1D1B	REAR MOUNTED 0	\$8,934
		TECHNICAL: Adds LSI and EO.	
I	PEP1D1B	REAR MOUNTED 0	\$9,807
		TECHNICAL: Adds LSI-P, EO and Modbus.	

Circuit Breakers (R-Frame Model)
1600 Amp, 3 Pole, UL-100 % Rated Circuit Breakers
 Provides 1600A, UL-100 % rated, R-Frame Model, molded case circuit breaker with auxiliary contacts, shunt trip and load take-off bus. Breakers are manually operated unless otherwise stated.

Right Mounted

I	RMS1E2R	RIGHT MOUNTED 0	\$9,083
		TECHNICAL: Adds LSI.	
I	RMG1E2R	RIGHT MOUNTED 0	\$9,537
		TECHNICAL: Adds LSI.	
I	RMP1E2R	RIGHT MOUNTED 0	\$10,446
		TECHNICAL: Adds LSI-P and Modbus	

Left Mounted

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CIRCUIT BREAKERS (CONT.)

I	RMS1E2L	LEFT MOUNTED TECHNICAL: Adds LSI	0	\$9,083
I	RMG1E2L	LEFT MOUNTED TECHNICAL: Adds LSIG.	0	\$9,537
I	RMP1E2L	LEFT MOUNTED TECHNICAL: Adds LSIG-P and Modbus.	0	\$10,446

Rear Mounted

I	RMS1E2B	REAR MOUNTED TECHNICAL: Adds LSI.	0	\$9,083
I	RMG1E2B	REAR MOUNTED TECHNICAL: Adds LSIG	0	\$9,537
I	RMP1E2B	REAR MOUNTED TECHNICAL: Adds LSIG-P and Modbus, Bottom cable entry only.	0	\$10,446

2000 Amp, 3 Pole, UL-100% Rated Circuit Breakers
Provides 2000A, UL-100% rated, R-Frame Model, molded case circuit breaker with auxiliary contacts, shunt trip and load take-off bus.

POWER CONNECTIONS (CONT.)
CIRCUIT BREAKERS (CONT.)

Breakers are manually operated unless otherwise stated.

Right Mounted

I	RMS1F2R	RIGHT MOUNTED TECHNICAL: Adds LSI.	0	\$10,328
I	RMG1F2R	RIGHT MOUNTED TECHNICAL: Adds LSIG.	0	\$10,844
I	RMP1F2R	RIGHT MOUNTED TECHNICAL: Adds LSIG-P and Modbus.	0	\$11,877

Left Mounted

I	RMS1F2L	LEFT MOUNTED TECHNICAL: Adds LSI.	0	\$10,328
I	RMG1F2L	LEFT MOUNTED TECHNICAL: Adds LSIG.	0	\$10,844
I	RMP1F2L	LEFT MOUNTED TECHNICAL: Adds LSIG-P and Modbus.	0	\$11,877

Rear Mounted

I	RMS1F2B	REAR MOUNTED TECHNICAL: Adds LSI.	0	\$10,328
I	RMG1F2B	REAR MOUNTED TECHNICAL: Adds LSIG.	0	\$10,844
I	RMP1F2B	REAR MOUNTED TECHNICAL: Adds LSIG-P and Modbus	0	\$11,877

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CIRCUIT BREAKERS (CONT.)

Circuit Breakers, Masterpact Model (Rear Location Only)

2000 Amp, 3 Pole, UL-100% Rated Circuit Breakers

Provides rear mounted, 2000A, UL-100% rated, Masterpact Model, fixed mounted, insulated case circuit breaker, electrically operated; with auxiliary contacts, shunt trip and load take-off bus.

I	MES1F2B	REAR AND FIXED MOUNTED	0	\$13,770
		TECHNICAL: Adds LSI.		
I	MEG1F2B	REAR AND FIXED MOUNTED	0	\$14,459
		TECHNICAL: Adds LSIG.		
I	MEP1F2B	REAR AND FIXED MOUNTED	0	\$16,524
		TECHNICAL: Adds LSIG-P and Modbus.		

Power Connection Covers (LV)

Required: Selections will be automatically driven by ISA/CSQ. Covers are required for left/right/rear locations when a breaker is not selected.

I	CVR0010	COVER GROUP-SIDE-QTY 2	0	\$424
		Provides two side covers. REQUIRES: Rear breaker CANNOT BE USED WITH: RH or LH breaker.		
I	CVR0011	COVER GROUP-SIDE-QTY 1	0	\$212
		Provides 1 side cover. ONLY FOR USE WITH: One RH or one LH breaker.		
I	CVR0013	COVER GP-REAR-QTY 1	0	\$289
		TECHNICAL: 1 rear cover. REQUIRES: One RH and one LH breaker		
I	CVR0081	COVER GRP-2 SIDE & 1 REAR CVR.	0	\$824
		Provides two side covers and one rear cover. CANNOT BE USED WITH: Any breaker		
I	CVR0082	COVER GRP-1 SIDE & 1 REAR CVR.	0	\$578
		Provides one side cover and one rear cover. REQUIRES: A qty. of 1 Side Breaker, RH or LH		

Power Connection Groups

Based on breaker selected and cable entry location, one of following power connection group selections will automatically be driven by CSQ/ISA.

Right Side Mounted

I	PCR0013	R FRAME - 3 POLE	0	\$2,043
		MANDATORY for all right hand R or P frame circuit breakers ONLY FOR USE WITH: Top or Bottom Cable Entry, 3 Pole		

Left Side Mounted

I	PCLH062	R FRAME	0	\$2,043
		MANDATORY for all left hand R or P frame circuit breakers ONLY FOR USE WITH: Top or Bottom Cable Entry, 3 Pole		

Rear Location

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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CIRCUIT BREAKERS (CONT.)

I	PCB0156	R FRAME - 3 POLE 0 MANDATORY for all rear location R or P frame circuit breakers ONLY FOR USE WITH: Bottom Cable Entry		\$1,228
I	PCB0158	MASTERPACT - 3 POLE 0 ONLY FOR USE WITH: Bottom Cable Entry		\$1,342

**Harnesses (Breaker)
(Automatic Selection based on Breaker)**

I	WIREM01	MASTERPACK BREAKER WIRING 0 REQUIRES: Masterpack breakers		\$201
I	WIREN42	EMCP4 BREAKER WIRING 0 REQUIRES: R or P Frame breakers		\$69
I	WIREN43	EMCP4.4 CBK WIRING NM, RM, PM 0 Not for use with mechanically operated breakers One per breaker REQUIRES: R Frame breakers & EMCP 4.3 ONLY FOR USE WITH: 1400, 1600, & 1800 Frame generators		\$37

**POWER CONNECTIONS
Power Connection Compatibility Rules**

- MEDIUM VOLTAGE (MV):**
- Standard load take-off provisions are right hand mounted load take-off buss bars: NEMA standard hole configuration.
 - The load take-off buss bar can be moved to the left hand mount.
 - The load take-off bus cannot be moved to the rear location.

**MV Power Connection Options
Required: Select one.**

I	BUSBRN1	NEMA RH MV POWER TERMINATION 0 REQUIRES: Side Mounted Pwr Conn		\$2,088
I	BUSBLN1	NEMA LH MV POWER TERMINATION 0 REQUIRES: Side Mounted Pwr Conn		\$2,088

Annunciators

Annunciator Modules
NOTE: Can order a maximum of three remote annunciators if no local annunciator is ordered. Can order a maximum of two remote annunciators if one local annunciator is ordered. Can order a maximum of one remote annunciator if two local annunciators are ordered.

**Local
Must Select One of the Local Options**

I	CVR0067	NO ANNUNCIATOR MODULE 0 TECHNICAL: Contains covers needed when annunciator is not ordered.		\$119
I	EMGRAM5	PRE-PROGRAMMED 0 TECHNICAL: Provides 16 point/32 light annunciator, mounted on package, with label NFPA 99-110/CSA 282 Configuration and label.		\$660

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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CIRCUIT BREAKERS (CONT.)

Aunnunciators (Cont.)

I	EMCCAM6	CUSTOM 0 TECHNICAL: Provides 16 point/32 light annunciator, mounted on package, with label kit shipped loose for customer installation.		\$528
I	EMGRAM6	1-PRE-PROGRAMMED & 1-CUSTOM 0 TECHNICAL: Provides 16 point/32 light annunciator, mounted on package with NFPA 99-110/CSA 282 Configuration and label, and additional 16 point/32 light annunciator, mounted on package, with label kit shipped loose for customer installation.		\$875
I	EMGRAM7	2-CUSTOM 0 TECHNICAL: Provides two 16 point/32 light annunciators, mounted on package, with label kit shipped loose for customer installation.		\$935

Remote Annunciator
May select up to a total qty. of three (3) if a Local
Annunciator is NOT selected

I	ANNC001	REMOTE NFPA ANNUNCIATORS 0 TECHNICAL: Provides custom remote RS485, 16 point , 32 light annunciator with label kit, shipped loose. QTY of 1 CANNOT BE USED WITH: ANNC002 or ANNC003		\$966
I	ANNC002	CUSTOM NFPA REMOTE ANNUNCTR X2 0 TECHNICAL: Provides custom remote RS485, 16 point , 32 light annunciator with label kit, shipped loose. QTY of 2 CANNOT BE USED WITH: ANNC001 or ANNC003		\$1,932
I	ANNC003	CUSTOM NFPA REMOTE ANNUNCTR X3 0 TECHNICAL: Provides custom remote RS485, 32 light annunciator shipped loose, with label kit. QTY of 3 CANNOT BE USED WITH: ANNC001 or ANNC002		\$2,898

COOLING SYSTEM

Cooling System

RADIATOR AND COOLING SELECTION
 All packages with factory installed radiator should not be lifted with coolant. Packages will not ship with coolant.

Note: See TMI for heat rejection, pump performance, and ambient capability information
 Must select one:

I	RAD4501	INSTALLED RADIATOR 0 TECHNICAL: 47 sq ft, 0.52 drive ratio, Serpentine core, split system, engine-mounted fan. Ambient capability 45C (113F), 300M (984ft) Radiator installed on and shipped with genset package		\$38,291
I	NORAD01	NO RADIATOR 0 No Radiator REQUIRES: A without radiator cooling connection selection.		NC

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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COOLING SYSTEM (CONT.)

Cooling System (Cont.)

COOLING CONNECTION-JACKET WATER OUT

Must select one jacket water out connection when No Radiator is selected:

I	JWOTRH0	JW OUT RH HOSE CONNECTION 0 TECHNICAL: Right side Jacket Water out hose connection. Does not provide a fan or pulley. Customer must provide a cooling system.		\$211
I	JWOTLH0	JW OUT LH HOSE CONNECTION 0 TECHNICAL: Left side Jacket Water out hose connection. Does not provide a fan or pulley. Customer must provide a cooling system.		\$211
I	JWOTCF0	JW OUT RH CAT FLANGE CONN 0 TECHNICAL: Right side Jacket Water out CAT flange connection. Does not provide a fan or pulley. Customer must provide a cooling system.		\$287
I	JWOTCF1	JW OUT LH CAT FLANGE CONN 0 TECHNICAL: Left side Jacket Water out CAT flange connection. Does not provide a fan or pulley. Customer must provide a cooling system.		\$287

COOLING CONNECTION-JACKET WATER IN

I	JWINFL0	JW IN CAT FLANGE CONN 0 TECHNICAL: Jacket Water in CAT flange connection. Does not provide a fan or pulley. Customer must provide a cooling system.		\$65
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Jacket Water Coolant Heaters

Must select one:

I	JWHWP2Q	JW HEATER - SINGLE W/PUMP 0 Engine starting aid For operation in ambient conditions above 0 C (32 F). TECHNICAL: Heater: 208 VAC, Single phase, 9kW Pump: 208/240 VAC, Single phase, 10GPM, 60Hz, 97W		\$2,292
I	JWHWP2G	JW HEATER - SINGLE W/PUMP 0 Engine starting aid For operation in ambient conditions above 0 C (32 F). TECHNICAL: Heater: 240 VAC, Single phase, 9kW Pump: 208/240 VAC, Single phase, 10GPM, 60Hz, 97W		\$2,292
I	JWHWP2L	JW HEATER - SINGLE W/PUMP 0 Engine starting aid three phase, 9 kW, JW Heater. For operation in ambient conditions above 0 C (32 F). TECHNICAL: Heater: 480 VAC, Three phase, 9kW Pump: 208/240 VAC, Single phase, 10GPM, 60Hz, 97W		\$2,592
I	JWHWP2M	JACKET WATER HTER-208V 10.5kW 0 Engine starting aid For operation in ambient conditions below 0 C (32 F). TECHNICAL: Heater: 208 VAC, Single phase, 10.5kW Pump: 208/240 VAC, Single phase, 10GPM, 60Hz, 97W		\$2,835

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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COOLING SYSTEM (CONT.)

Cooling System (Cont.)

I	JWHWP2D	JACKET WATER HEATER-240V 12 KW 0 Engine starting aid For operation in ambient conditions below 0 C (32 F). TECHNICAL: Heater: 240 VAC, Single phase, 12kW Pump: 208/240 VAC, Single phase, 10GPM, 60Hz, 97W		\$2,835
I	JWHWP2H	JACKET WATER HEATER-480V 12 KW 0 Engine starting aid For operation in ambient conditions below 0 C (32 F). TECHNICAL: Heater: 480 VAC, Three phase, 12kW Pump: 208/240 VAC, Single phase, 10GPM, 60Hz, 97W		\$2,981

Jacket Water Heater Wiring Groups

Must select one:

I	WIRJW02	WIRING GP-JW HEATER 0 REQUIRES: 208 Volt or 240 Volt JW Heater ONLY FOR USE WITH: 1400 frame generators		\$395
I	WIRJW03	WIRING GP-JW HEATER 0 REQUIRES: 480 Volt JW Heater ONLY FOR USE WITH: 1400 frame generators		\$250

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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CONNECTIONS/POWER FEED

Power Connection Compatibility Rules

LOW VOLTAGE (LV)

1. Standard load take-off provisions are top entry, center post buss bars: NEMA standard hole configuration.
2. Selection of any left/right/rear mounted buss bar or left/right/ rear breaker requires the multi-hole center post buss bars. The multi-hole buss bars do not meet NEMA/IEC guidelines for a customer connection.
3. A maximum of two left/right/rear power connections may be selected (1 buss bar & 1 circuit breaker or 2 circuit breakers):
 - a. A maximum of one connection (empty enclosure, buss bar or breaker) per location (right, left, rear).
 - b. A maximum of ONE left/right/rear load take-off buss bar may be selected.
 - c. A maximum of TWO circuit breakers may be selected.
4. An empty enclosure may be selected for any location (right, left, rear) without a power connection.
5. Top cable entry on the rear with a rear power connection and extension box cannot be used due to the Rear Mounted EMCP4.3 panel.

LV Power Connection Options
 Required: Select one.

I	BUSB002	NEMA LV BB CONNECT-1400 FRAME 0 NEMA standard hole configuration CANNOT BE USED WITH: Side or Rear Mounted Power Connection (Busbar or Breaker)	\$1,424
I	BUSB001	CENTERPOST 5000A LV BUSS-MULTI 0 REQUIRES: Side or Rear Mounted Pwr Conn (Busbar or Breaker)	\$1,079
I	BUSBRN4	RIGHT LV NEMA BUS 0 REQUIRES: Side Mounted Pwr Conn (Busbar or Breaker)	\$5,459
I	BUSBLN4	LEFT LV NEMA BUS 0 REQUIRES: Side Mounted Pwr Conn (Busbar or Breaker)	\$5,459
I	BUSBBN4	REAR LV NEMA BUS 0 REQUIRES: Rear Mounted Pwr Conn (Busbar or Breaker)	\$6,127

**Cable Support(LV)
 Auto Selection**

I	SUPCBL1	SUPPORT GROUP 0 REQUIRES: LV and RH or LH side mounted power connection (Breaker or Bus Bar) CANNOT BE USED WITH: Rear Connection	\$491
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POWER CONNECTIONS - LV

**Cable Entry Options (LV)
 MANDATORY SELECTION**

Select one for each side power connection or buss bar or breaker that is selected.

Right Side

MANDATORY selection of one of the three for all right hand circuit breakers (all sizes)

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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CONNECTIONS/POWER FEED (CONT.)

Power Connection Compatibility Rules (Cont.)

I	BOTCBLR	BOTTOM CABLE ENTRY-RH 0 Right side bottom cable entry w/o shroud. ONLY FOR USE WITH: Right side power connections		\$160
I	SHROUDR	BOTTOM RIGHT SHROUD 0 Right side bottom cable entry with shroud. ONLY FOR USE WITH: Right side power connections.		\$904
I	TOPCBLR	TOP CABLE ENTRY-RIGHT SIDE 0 Right side top cable entry w/o shroud. ONLY FOR USE WITH: Right side power connections.		\$160

Left Side
MANDATORY selection of one of the three for all left hand circuit breakers (all sizes)

I	BOTCBLL	BOTTOM CABLE ENTRY-LH 0 Left side bottom cable entry w/o shroud. ONLY FOR USE WITH: Left side power connections.		\$160
I	SHROUDL	BOTTOM LEFT SHROUD 0 Left side bottom cable entry with shroud. ONLY FOR USE WITH: Left side power connections.		\$904
I	TOPCBLL	TOP CABLE ENTRY-LEFT SIDE 0 Left side top cable entry w/o shroud. ONLY FOR USE WITH: Left side power connections.		\$160

Rear
MANDATORY selection of one of the three for all rear mounted circuit breakers (all sizes)

I	BOTCBLB	BOTTOM CABLE ENTRY-REAR 0 Rear/back bottom cable entry w/o shroud. ONLY FOR USE WITH: Rear/back power connections.		\$260
I	SHROUDB	BOTTOM REAR SHROUD 0 Rear/back bottom cable entry with shroud. ONLY FOR USE WITH: Rear/back power connections.		\$588

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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CONNECTIONS/POWER FEED (CONT.)

Power Connection Compatibility Rules (Cont.)

Power Connections (LV)

Power Connection (BussBars, Breakers & Enclosures) Compatibility Rules

1. You must choose the Center Post Buss Bar FC BUSB001 when a side or rear mounted Buss Bar or Breaker is chosen
2. Can choose a maximum of two power connections, but only 1 breaker may be selected (up to 1 Buss Bar & 1 Breaker)
3. Can choose only ONE power connection (either a breaker or a bus bar)
4. Can choose only ONE Feature Code for a right side, Enclosure, BussBar or Breaker.
5. Can choose only ONE Feature Code for a left side, Enclosure, BussBar or Breaker.
6. Can choose only ONE Feature Code for a rear, Enclosure, BussBar or Breaker.
7. Can choose only ONE Buss Bar Feature Code out of the twelve (6 STD & 6 CSA) total for Right Side, Left Side & Rear Mount.

Right Side

CANNOT BE USED WITH: Right Side customer Connection

May Select one per side

Enclosures - Controls Packaging (LV)

Required if low voltage, left or right or rear breaker is not selected

I	EMPTYPR	RIGHT SIDE EXTENSION BOX 0 Right side empty enclosure. CANNOT BE USED WITH: Right side buss bar, right side breaker or right side empty enclosure w/shroud.	\$1,214
I	EMPTYSR	EMPTY ENCLOSURE-RH W/SHROUD 0 Right side empty enclosure w/bottom shroud. CANNOT BE USED WITH: Right side buss bar, right side breaker or right side empty enclosure.	\$1,954
I	NOENCPR	NO CIRCUIT BREAKER SELECTED 0 TECHNICAL: Drives no right side extension box or side enclosure. CANNOT BE USED WITH: Right side buss bar or right side breaker. right side empty enclosure or right side empty enclosure w/shroud.	NC

Left Side

CANNOT BE USED WITH: Left Side Customer connection.

May Select one per side

Enclosures - Controls Packaging (LV)

Required if low voltage, left or right or rear breaker is NOT selected

I	EMPTYPL	LEFT SIDE EXTENSION BOX 0 Left side empty enclosure CANNOT BE USED WITH: Left side buss bar, left side breaker or left side empty enclosure w/shroud.	\$1,214
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USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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CONNECTIONS/POWER FEED (CONT.)

Power Connection Compatibility Rules (Cont.)

I	EMPTYSL	EMPTY ENCLOSURE-LH W/SHROUD 0 Left side empty enclosure w/bottom shroud. CANNOT BE USED WITH: Left side buss bar, right side breaker or left side empty enclosure.		\$1,917
I	NOENCPL	NO ENCLOSURE-LH 0 No left side enclosure. TECHNICAL: Drives no left side extension box or side enclosure. CANNOT BE USED WITH: Left side buss bar or left side breaker, left side empty enclosure or left side empty enclosure w/shroud.		NC

Rear Location
May Select one per side

Enclosures - Controls Packaging (LV)
Required if low voltage, left or right or rear breaker is not selected

I	EMPTYPB	REAR EXTENSION BOX 0 Rear/back empty enclosure. CANNOT BE USED WITH: Rear/back buss bar, rear/back breaker or rear/back empty enclosure w/shroud.		\$2,345
I	EMPTYSB	EMPTY ENCLOSURE-REAR W/SHROUD 0 Rear/Back empty enclosure w/bottom shroud. CANNOT BE USED WITH: Rear/back buss bar, rear/back breaker or rear/back empty enclosure.		\$2,786
I	NOENCPB	NO ENCLOSURE-REAR 0 Rear/back side enclosure. TECHNICAL: Drives no rear/back extension box or rear/back enclosure. CANNOT BE USED WITH: Rear/back buss bar or rear/back breaker or rear/back empty enclosure or rear/back enclosure w/shroud.		NC

NEUTRAL GROUND - LV

I	NGRDCNL	NEUTRAL GROUNDING CONNECTION L 0 Required with either ULLIST or CSA Test and Certification. TECHNICAL: Provides a neutral grounding connection for LV 1400 frame generators.		\$264
I	NGRDCNR	NEUTRAL GROUNDING CONNECTION R 0 Required with either ULLIST or CSA Test and Certification. TECHNICAL: Provides a neutral grounding connection for LV 1400 frame generators.		\$264

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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FUEL SYSTEM

FUEL SYSTEM PRESSURE

Intended for use upstream of engine fuel inlet. Sized for minimum 31.5 MJ/Nm³ (800btu/cu ft) dry pipeline natural gas. Gas train consist of: ANSI class 150 (3-) outlet connection, manual shutoff valve, 1 micron filter at 96% efficiency with differential pressure gauges, pressure regulator, 24VDC ETR (Energized-To-Run) double solenoid shutoff valve with visual position indicators, and flexible braided hose.

Must select one of the following natural gas fuel systems.

I	FPSTD01	STANDARD PRESSURE FUEL SYSTEM 0 Gas train and engine fuel valve. TECHNICAL: For use with gas supply pressures of 17.9 to 48.3 kPa (2.6 to 7 psi) to the gas train. Gas Train inlet connection size DN80		\$17,393
I	LFP0001	LOW PRESSURE FUEL SYSTEM 0 Gas train and engine fuel valve. TECHNICAL: For use with gas supply pressures from 4.9 to 18.9kPa (0.65 to 2.6 psi) at the gas train inlet. The pressure drop across the gas train is 1.03 kPa (0.15 psi), with a new filter, at full rated flow. The resulting minimum fuel supply pressure at the engine fuel inlet, i.e. downstream of the gas train inlet, is 3.44 kPa (0.5 psi). Gas Train inlet connection size DN125		\$35,410

GENERATORS

GENERATOR TEMPERATURE RISE

Select one of the following Temperature Rise indicators.

I	GENT080	80C TEMP RISE OVER 40C AMB 0 CANNOT BE USED WITH: Voltage 60H0600 and Rating KW01000		NC
I	GENT105	105C TEMP RISE OVER 40C AMB 0		NC
I	GENT125	125C TEMP RISE OVER 40C AMB 0		NC
I	GENT150	150C TEMP RISE OVER 40C AMB 0		NC

LANGUAGE OPTIONS

Control Panels - Language Options

Must select One.
Provides Language for genset controller

I	LANENG C	ENGLISH CONTROLLER LANGUAG 0		NC
I	LANFREC	FRENCH CONTROLLER LANGUAGE 0		NC
I	LANSPAC	SPANISH CONTROLLER LANGUAGE 0		NC
I	LANGERC	GERMAN CONTROLLER LANGUAGE 0		NC

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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LANGUAGE OPTIONS (CONT.)

Control Panels - Language Options (Cont.)

I	LANPORC	PORTUGESE CONTROLLER LANGUAGE	0	NC
I	LANRUSC	RUSSIAN CONTROLLER LANGUAGE	0	NC
I	LANARAC	ARABIC LANGUAGE-GENSET CNTL	0	NC
I	LANCHIC	CHINESE CONTROLLER LANGUAGE	0	NC
I	LANDUTC	DUTCH CONTROLLER LANGUAGE	0	NC
I	LANJAPC	JAPANESE LANGUAGE-GENSET CNTL	0	NC

PACKAGE Language Options

Must select One.
 Provides nameplate, decals, and operator's manual in specified language. For other Language Options contact your Marketing Profit center. Additional literature available through Corporate Literature System.

I	LANENGO	LANGUAGE MARKINGS-ENGLISH	0	NC
I	LANFREQ	LANGUAGE MARKINGS-FRENCH	0	NC
I	LANPORO	LANGUAGE MARKINGS-PORTUGESE	0	NC
I	LANSPAO	LANGUAGE MARKINGS-SPANISH	0	NC
I	LANARAO	ARABIC LANGUAGE DECALS	0	NC
I	LANCHIO	LANGUAGE MARKINGS-CHINESE	0	NC

LUBE SYSTEM

Prelube Pumps

Must select one:

I	NOPLPMP	NO PRELUBE PUMP	0	NC
I	ELEPP09	ELECTRIC PRELUBE PUMP AC TECHNICAL: Requires 115/230 VAC 50/60 Hz power source. Mandatory for 512GE36 or 512GE37 or CONTINU Optional for 512GE34 or 512GE35	0	\$3,364

Lubricating Oil

Must select one:

I	LUBOIL8	LUBRICATING OIL ULTRA TECHNICAL: Cat NGE0, 40 Wt, 307 L (81 gal).	0	\$1,740
I	NOLUB01	NO LUBRICATING OIL DESIRED TECHNICAL: Engine shipped without oil.	0	NC

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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LUBE SYSTEM (CONT.)

Crankcase Ventilation System - Oil Fumes

Must select one:

I	OILFUM2	POSITIVE CRANK VENTILATION 0 Shipped loose. TECHNICAL: Ingestive system to return crankcase fumes to air intake. Returns oil to sump. 60 Hz 208-230/460 AC.	0	\$8,358
I	NOPCV01	NO POSITIVE CRANK VENTILATION 0	0	NC

PROTECTION SYSTEM

Crankcase Explosion Relief Valve

Must select one:

I	EXRVL12	EXPLOSION RELIEF VALVE 23 For crankcase protection.	23	\$829
I	NOEXRV4	NO EXPLOSION RELIEF VALVES 0	0	\$473

Oil Pan Accessories

Must select one.

I	OLVLRG9	OIL LEVEL REGULATOR-STD PAN 0 TECHNICAL: Maintains safe oil level in pan from customer provided gravity-fed oil supply.	0	\$542
I	NOLVRG3	NO OIL LEVEL REGULATOR 0	0	\$73

STARTING SYSTEM

STARTING MOTORS AND BARRING DEVICE

I	ELSM020	2 MOTORS WITH BARRING GROUP 0 Includes two LHS mounted electric starting motors and RHS mounted barring device.	0	\$3,533
I	ELSM021	2 MOTORS NO BARRING GROUP 0 Includes two LHS mounted electric starting motors without barring device.	0	\$3,339

TRANSFORMERS, DRY TYPE

Current Transformers

Automatically driven by specific gen set power rating and voltage selections.

I	CT20005	CURRENT TRANSF., 2000:5 RATIO 0	0	NC
I	CT15018	CUR.TRANSFORMERS 1500:5 RATIO 0	0	NC
I	CT12005	CUR.TRANSFORMERS 1200:5 RATIO 0	0	NC
I	CT10005	CUR.TRANSFORMERS 1000:5 RATIO 0	0	NC

USE	REF NO.	MANDATORY ATTACHMENTS	Ship Weight lbs	List Price At Factory
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TRANSFORMERS, DRY TYPE (CONT.)

Current Transformers (Cont.)

I	CT04005	CT 400:5 RATIO	0	NC
I	CT03005	CT 300:5 RATIO	0	NC
I	CT02005	CT 200:5 RATIO	0	NC

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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COOLING SYSTEM

COOLING CONNECTION-ADAPTER

I	ADPFLG2	ANSI/DIN ADAPTER FLANGE 0 Provides an ANSI/DIN Adapter Flange for a 152.4 mm (6 in) pipe ID For the Cooling System Connections. Can provide up to two shipped loose adapter flanges: 1st shipped loose adapter flange, if selected with an intake flange connection (JWINFLO) 2nd shipped loose adapter flange, if selected with either outlet flange connection, left hand (JWOTCF0) or right hand (JWOTCF1), in addition to the intake flange connection (JWINFLO) ONLY FOR USE WITH: NORAD01		\$1,202
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CONNECTIONS/POWER FEED

Customer Connection Mounting Locations

Must Select One

I	CUSTCNR	CUSTOMER CONNECTION MOUNT-RH 0 Provides standard RH-mounted customer connection panel location. CANNOT BE USED WITH: RH mounted breakers or bus bars and RH top cable entry (TOPCBLR)		NC
I	CUSTCNL	CUSTOMER CONNECTION MOUNT-LH 0 Replaces standard RH-mounted customer connection panel location with LH-mounted location. CANNOT BE USED WITH: LH mounted breakers or bus bars and LH top cable entry (TOPCBLL)		NC

EXHAUST SYSTEM

EXHAUST SYSTEM OPTIONS

Mufflers

I	MUF0027	MUFFLER - 12" MODULAR 0 Shipped loose. TECHNICAL: Industrial Grade 15 dBA Attenuation Mating flanges, 12-14.3 mm dia holes EQ SP, 375 mm bolt hole dia, straight in and out ends, 304.8 mm ID(12 in)		\$1,997
I	MUFRS20	MUFFLER - 18 DBA ATTENUATION 0 Shipped loose. TECHNICAL: Residential Grade 18 dBA Attenuation ANSI 150# mating flanges, 12-25.4 mm dia doles EQ SP, 431.8 mm bolt hole dia, 304.8 mm ID (12 in).		\$2,798
I	MUFCR40	MUFFLER - 25 DBA ATTENUATION 0 Shipped loose. TECHNICAL: Critical Grade 25 dBA Attenuation ANSI 150# mating flanges, 12-25.4 mm dia doles EQ SP, 431.8 mm bolt hole dia, 304.8 mm ID (12 in).		\$3,284

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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EXHAUST SYSTEM (CONT.)

Mufflers (Cont.)

I	MUFSA03	12" MUFFLER - SPARK ARRESTING 0 Shipped loose. TECHNICAL: Spark arresting muffler with straight in and out ends, clean out box and spark box. ANSI 150# mating flanges, 12-25.4 mm dia doles EQ SP, 431.8 mm bolt hole dia, 304.8 mm ID (12 in).		\$2,893
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Elbows

Shipped loose, Weldable; 90 deg bend

I	EXCEL08	ELBOW - 305 MM (12 IN) 0 Shipped loose. TECHNICAL: 305 mm (12 in).		\$925
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Flanges

I	EXCFL06	FLANGE - 305 MM (12 IN) 0 Shipped loose. TECHNICAL: 328 mm weldable flange (12 in), turbo outlet size. 12-13.8 mm dia holes EQ SP, 375 mm bolt hole dia.		\$296
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I	EXCFL29	FLANGE - 305 MM (12 IN) 0 Shipped loose. TECHNICAL: 328 mm weldable flange (12 in), turbo outlet size. 12-25.4 mm dia holes EQ SP, 431.8 mm bolt hole dia.		\$296
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Flexible Fittings

I	EXCFF11	FLEXIBLE FITTINGS 0 Shipped loose. TECHNICAL: 305mm x 305mm (12in x 12in) 12-bolt flanges at both ends, 12-14.3 mm dia holes EQ SP 375 mm bolt hole dia.		\$806
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FUEL SYSTEM

GASTRAIN PRESSURE SENSORS

I	GSTRPS1	GAS TRAIN PRESSURE SENSORS 0 Provides three 0-100 kPag, 4-20mA pressure sensors installed in the gas train with 1/2" NPT conduit connectors, Two sensors to provide filter differential pressure and a third to provide post regulator engine fuel inlet pressure.		\$2,404
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GENERATORS AND GENERATOR ATTACHMENTS

GENERATOR TEMPERATURE MONITORING

I	GENRTDM	GEN MONITORING PACKAGE 0 TECHNICAL: Provides Generator Rear Bearing RTDs and RTD Module to supply generator bearing and stator temperature monitoring and protection capability for generators Parameters are viewable on the EMCP4.		\$1,245
I	SHK0017	SPACE HEATER KIT 0		\$486

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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GOVERNING SYSTEM

Load Share Module

I	LSMOD12	LOAD SHARE MODULE 0 TECHNICAL: Provides load share module in Control Panel, with 10k Ohm speed adjust potentiometer.		\$1,775
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BATTERIES & BATTERY HOUSINGS

Batteries, Racks and Cables

Shipped loose. Low Maintenance, high output.

I	BAT1206	24 VOLT BATTERY SET-DRY (4) 0 Shipped Loose. 2800 CCA rating, 380 ampere hours. Includes 4 - 12V batteries, racks, and cables. TECHNICAL: -30 to -12 C (-22 to 10 F). ONLY FOR USE WITH: 2 starters		\$3,390
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MOUNTING SYSTEM

Vibration Isolators

Shipped loose. For stationary applications only.

I	NOISO01	NO ISOLATORS 0 No Isolator selected		NC
I	VIBIS74	LOW EFFICIENCY ISOLATORS-PUCK 0 Shipped Loose Provides low efficiency rubber puck isolators. 90% efficiency. REQUIRES: Radiator		\$537
I	VIBIS76	LOW EFFICIENCY ISOLATORS 0 Shipped loose. Provides low efficiency rubber puck isolators. 90% efficiency. REQUIRES: No Radiator		\$445
I	VIBIS15	SPRING TYPE VIBRATION ISOLATOR 0 Shipped loose. TECHNICAL: Spring-type vibration isolators with 95% efficiency. REQUIRES: Radiator		\$1,556
I	VIBIS17	SPRING TYPE VIBRATION ISOLATOR 0 Shipped loose. TECHNICAL: Spring-type vibration isolators with 95% efficiency. REQUIRES: No Radiator		\$1,210
I	VIBIS89	VIBRATION ISOLATORS - SEISMIC 0 Shipped loose. Provides 1.5G rated spring isolators. REQUIRES: Radiator Unit does not have IBC seismic certification from the factory		\$6,659

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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MOUNTING SYSTEM (CONT.)

Vibration Isolators (Cont.)

I	VIBIS90	VIBRATION ISOLATORS - SEISMIC 0 Shipped loose. Provides 1.5G rated spring isolators. REQUIRES: No Radiator Unit does not have IBC seismic certification from the factory		\$5,327
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SPECIAL TESTS/REPORTS

Special Tests/Reports

Must be ordered prior to factory start-on-line date
 Factory Witness Test - Consult Factory

I	TRSGEN2	PGS TEST REPORT @ 1.0 PF 0 CANNOT BE USED WITH: PGS test report TRSGEN7.0		\$324 NET
I	TRSGEN7	PGS TEST REPORT @ 0.8 PF 0 CANNOT BE USED WITH: PGS test report TRSGEN2.		\$324 NET
I	TRSGEN1	GENERATOR TEST REPORT 0		\$324 NET
I	TVATRS1	STANDARD GENSET TVA REPORT 0 Provides Standard Gen Set Torsional Vibration Analysis (TVA) Report for a selected Caterpillar engine and Caterpillar generator combination. Not available for custom generators. For custom generator TVA reports use TVATRS2. See Engine Data Sheet 73.3 for the report number to be requested. Report number should be shown on the order request.		\$382 NET

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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SPECIAL TESTS/REPORTS (CONT.)

Special Tests/Reports (Cont.)

I	TVATRS2	GEN SET TORS VIB ANALYSIS 0		\$1,047 NET
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NOTE: Consult factory on compound and tandem installations. There may be additional charges for analysis of applications where more than one engine drives a single load. A separate torsional analysis is required for each engine with different driven equipment in multiple engine installations.

One complete set of technical data (see below) must be submitted to Caterpillar before calculations are undertaken. The report will include a mathematical determination of the natural frequency, critical speeds, relative amplitudes of angular displacement, approximate nodal locations of the complete elastic system (both engine and driven equipment).

NOTE: IF ALL TECHNICAL DATA REQUIRED IS NOT RECEIVED, ANALYSIS MAY BE DELAYED UNTIL THE MISSING INFORMATION IS PROVIDED.

TECHNICAL DATA REQUIRED:

1. The operating speed range.
2. Load demand curve on sets which have a load dependent variable rigidity coupling.
3. General arrangement drawing or sketch of complete system, including data on special crankshaft pulleys and equipment driven from front of engine.
4. With driven equipment on both ends of the engine, the horsepower demand of each end is required. In addition, simultaneous front and rear horsepower (maximum engine load) is required.
5. Make, model, WR2 and torsional rigidity on all couplings used between the engine and driven equipment.
6. WR2 of each rotating mass. Weight of each reciprocating mass. (Needed for all pumps, compressors, gears, pinions, propellers.)
7. Torsional rigidity and minimum shaft diameter or detailed dimensions of all shafting in the driven system whether separately mounted or installed in a housing.

ADDITIONALLY, if an order has not been placed, the following information must also be submitted:

1. Damper part number (not top level or pricing arrgt.)
2. Flywheel part number (not top level or pricing arrgt.)
3. Horsepower
4. Operating speed
5. Coupling part number; or indicate one or two-bearing

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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SPECIAL TESTS/REPORTS (CONT.)

Special Tests/Reports (Cont.)

I	TSP0001	FUEL CONSUMPTION TEST 0 Fuel rate and specific fuel consumption determined at 3 points at rated speed. (Full load, three quarters load and half load.) This 3L-0291 Test must be requested prior to factory build. This is a fuel consumption test and, as such, is not a substitute for and does not provide the kind of performance information provided by TRSENG1. NOTE: Test is run as basic engine before generator is attached. Order can include a generator but a generator is not part of unit when engine is tested. See TSP0002.		\$1,039 NET
I	TSP0002	GENSET FUEL CONSUMPTION TEST 0 Testing with Caterpillar generator-mounted switchgear or when no switchgear ordered. Test will be performed in accordance with 3L-0293 (electrical output (kW), current and voltage readings, engine speed, fuel rate, and specific fuel consumption are determined at 3 points at rated speed. (Full load, three quarters load, and half load.) Test must be requested prior to factory build. REQUIRES: Generator.		\$1,039 NET
I	TRSENG1	STD ENGINE TEST CHARGE 0 Test will be performed in accordance with 3L-0436 and must be requested prior to factory build. The test takes about one hour. There is no assurance that the engine will be tested at the rating specified in the order. Test results reported are: throttle position setting, full load BHP, turbocharger boost (if applicable), fuel rate at full load, lube oil pressure, RPM at rated speed and high idle.		\$324 NET

SPECIAL PACKING/INSPECTIONS FOR SHIPMENT

Export Boxing

Special Packing

I	SWP0001	SHRINK WRAP PROTECTION 0		\$315 NET
I	EXP0003	PACK FOR AIR FREIGHT 0 Provides labels and documents for air freight.		NC
I	EXP0004	SPEC MARKINGS ON EXPORT BOXING 0 Provides labels and documents for air freight.		\$150 NET

Storage Preservation

I	SRP0015	PRESERVATION - CORROSION INHIB 0 Leaves a coat of VCI corrosion inhibitor in all internal engine components including the crankcase, exhaust intake and cooling system passages. Protects engine and accessories from functional deterioration for a minimum of one year under storage conditions.		\$763 NET
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USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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SPECIAL PACKING/INSPECTIONS FOR SHIPMENT (CONT.)

Domestic Pack for Export

I	DPX0001	DOMESTIC PACK-EXPORT CONTAINER 0 ONLY FOR USE WITH: Engines not boxed.		NC
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NOTE: CONTAINER SHIPMENTS - Charge per container will be included in freight forwarding invoice.
 40 ft. open top containers -- \$450 NET.
 40 ft. standard containers -- \$360 NET.
 20 ft. open top containers -- \$300 NET.
 20 ft. standard containers -- \$240 NET.

I	DPX0002	DOMESTIC PACK FOR EXPORT 0 Does not include any packing. Only adds markings for export shipment. ONLY FOR USE WITH: Engines or miscellaneous parts and attachments (all models on rails or requiring skids).		NC
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Inspection Charges

(May Select Any)

Caterpillar miscellaneous handling charges for customer-requested inspection by a private agency for inspection of engines, generators transmissions and miscellaneous material. Includes visual inspection before boxing. No special test involved. Import license number must be supplied to factory prior to inspection.

I	MISCHC1	SGS INSPECTION 0 S.G.S. inspection covers all contents of a given order.		\$432 NET
I	MISCHC2	MISCELLANEOUS INSPECTION 0 TECHNICAL: All other inspection agencies. Specify agency name, address, contact, and phone number.		\$432 NET

STARTING/CHARGING SYSTEM

Battery Charger

Shipped loose.
 24-VDC output for use with lead acid or NiCad batteries.
 Current limiting ... need for crank disconnect relay.
 Not warranted or serviced by Caterpillar Inc.

I	BTC20A2	BATTERY CHARGER 20 AMP 0 Shipped loose. 4-rate charger with automatic switching from equalize to float. Includes high voltage, low voltage and AC failure alarm outputs, DC Ameter and Voltmeter, NEMA 1 enclosure. TECHNICAL: For 110-120/208-240 VAC 50/60Hz Input. Regulated. Meets alarm requirements of NFPA 99 and NFPA 110. C-UL listed, CE marked, CSA compliant, IBC seismic certified.		\$1,486
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USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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STARTING/CHARGING SYSTEM (CONT.)

Battery Charger (Cont.)

I	BTC3500	BATTERY CHARGER 35 AMP 130 Shipped loose. Dual microprocessor controlled stationary AC-DC power supply/battery charger with built-in battery health assessment system and remote battery temperature sensor. Includes high voltage, low voltage and AC failure alarm outputs. DC Amps and Volts LCD, NEMA 1 enclosure. TECHNICAL: For 115-120/208/230-240 VAC 50/60Hz Input. Meets alarm requirements of NFPA 99 and NFPA 110. C-UL listed, CE marked, IBC seismic certified.		\$5,256
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NOTE: Meets NFPA 110 Level 1 (24 hour) Recharge Time Requirement when used with BAT1206 four (4) battery set.

GENERAL

I	SPCNT1	SPECIAL PAINT 0 Colors (other than Caterpillar yellow) or high performance paints.		\$684 NET
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Aid Emblem

I	AIDEMB	US AID EMBLEM 0 Provides emblem to indicate Agency for International Development (AID) financing is involved. AID provides economic assistance to advance U.S. economic and political interests in countries located in Africa, Asia, Latin America, Central and Eastern Europe, and the New Independent States of the former Soviet Union. Only available for U.S. built products. Requires one emblem for each side of engine.		NC
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SVCE TOOLS/SHIP PROT/FACTORY SUPPORT

Commissioning

I	FACCOM1	FACTORY COMMISSIONING 0 Commissioning will be invoiced at \$1,400 per day, plus expenses, to the selling dealer. This \$7,000 Net charge will be deducted from the total cost of the commissioning.		\$7,575 NET
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LITERATURE

Extra Literature - English and Other Languages

Shipped loose.
Includes Operation and Maintenance Instruction Book, Parts Book (provided in CD for English language only) and other misc. forms.
This literature is in addition to the one group shipped free of charge with each engine.

I	LITENGE	EXTRA LITERATURE - ENGLISH 0 TECHNICAL: For paper copy of Parts Book, reference LITPAPR.		\$132 NET
I	LITFREE	EXTRA LITERATURE - FRENCH 0		\$132 NET

USE	REF NO.	OPTIONAL ATTACHMENTS	Ship Weight lbs	List Price At Factory
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LITERATURE (CONT.)

Extra Literature - English and Other Languages (Cont.)

I	LITSPAE	EXTRA LITERATURE - SPANISH	0	\$132 NET
I	LITPORE	EXTRA LITERATURE - PORTUGUESE	0	\$132 NET

Optional Literature - English Language

I	LITPAPR	PAPER PARTS BOOK-ENGLISH This literature is in addition to the two parts book provided on CD that is shipped free of charge with each engine.	0	\$163 NET
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CANADIAN STANDARDS ASSOCIATION

Special Certification

I	CSA0001	CSA CERTIFICATION REQUIRES: Neutral Grounding Connection (NGRDCNR or NGRDCNL). ONLY FOR USE WITH: Generators and Package Generator Sets with or without installed circuit breakers, low or med breakers CSA: CANADIAN STANDARDS ASSOCIATION.	0	NC
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EXTENDED SERVICE COVERAGE

ESC (Extended Service Coverage)

New procedures must be followed to purchase ESC with the gen sets offered in this price list. The new procedures are:
Complete the ESC Special Quote Request Form found at dealer.cat.com/EPESC. Please submit the completed form to engineesc@cat.com.
Contact engineesc@cat.com if you have any questions.