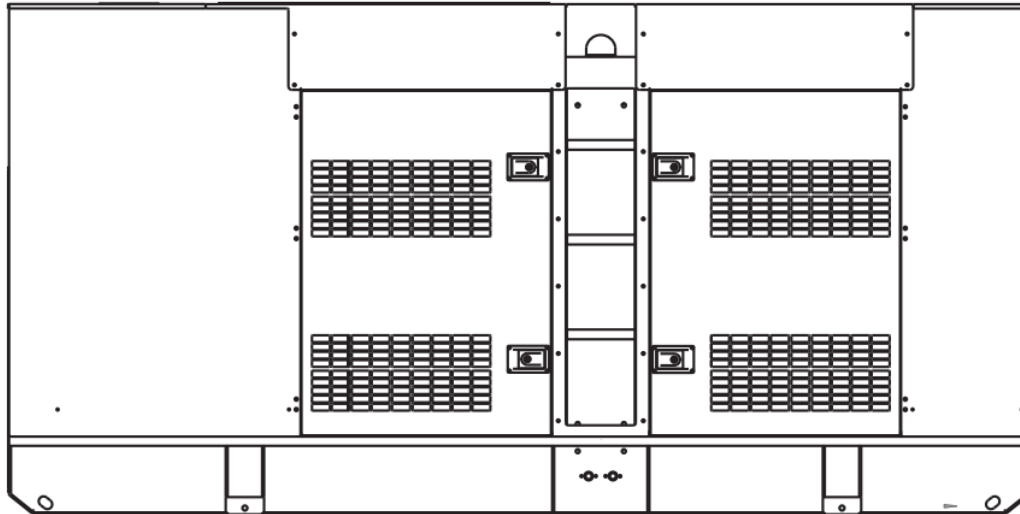


POWER OUTPUT

Prime Rating — 206 kW (258 kVA)
 Standby Rating — 227 kW (283 kVA)
 3-Phase, 60 Hertz, 0.8 PF



STANDARD FEATURES

- Heavy duty, 4-cycle, variable speed fan, diesel engine provides maximum reliability.
- Brushless alternator reduces service and maintenance requirements. Class H protection.
 - Open delta alternator design provides virtually unlimited excitation for maximum motor starting capability.
 - Automatic voltage regulator (AVR) provides precise regulation.
- Electronic governor system maintains frequency to $\pm 0.25\%$.
- Full load acceptance of standby nameplate rating in one step
- Soundproof, weather resistant, steel housing provides operation at 76dB (A) at 7meters. Fully lockable enclosure allows safety operation. Outdoor operation available.
- Internal fuel tank with direct observing glass, and fuel level meter display on control panel
 E-coat and powder coat paint provides durability and weather protection.
- Digital engine gauges including oil pressure, water temperature, battery volts, engine speed, and fuel level.
- Analog generator instrumentation including Ampere meter,
- Voltage meter, frequency meter, ammeter phase selector switch, voltmeter phase selector switch. Analog generator instrumentation and regulator adjustment.
- Deepsea/Comap professional generator controller.
 - High visibility LCD display with heated screen and alphanumeric readout.
 - IP65 Protection standard, operational temperature range of -40° to 85° C.
 - Modbus interface for gauge panel and expansion options.
 - DPF cleaning cycle indication.
 - Log record for inspection
- Automatic safety shutdown system monitors the water temperature, engine oil pressure, low coolant, low DEF, overspeed, and overcrank. Warning lights indicate abnormal conditions.
- Fuel/water separator. Removes condensation from fuel for extended engine life.
- Emergency stop switch — when manually activated, shuts down in any emergency.

SILENT SERIES

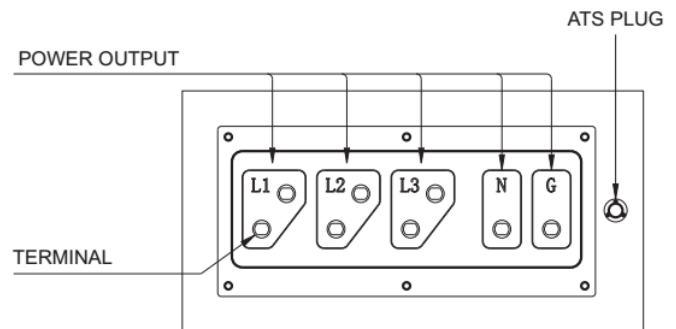
DECIBEL LEVELS

<p>Revolving field, self ventilated weatherproof Normal conversation allows substantially lower operating noise levels than competitive designs.</p>	<ul style="list-style-type: none"> 90 — Subway / truck traffic 80 — Average city traffic <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 20px;">Genset at 7m</div> 70 — Inside car at 60 mph 60 — Air conditioner at 6m 50 — Normal conversation
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76.0

 DECIBELS

GENERATOR OUTPUT PANEL



SPECIFICATIONS

Generator Specifications	
Model	Revolving field, self-ventilated weatherproof
Armature Connection	Star with Neutral
Phase	3
Standby Output	227KW (283KVA)
Prime Output	206KW (258KVA)
Power Factor	0.8
Voltage Regulation (No load to full load)	±0.5%
Generator RPM	1800
Frequency	60 Hz
No. of Poles	4
Excitation	Brushless with AVR
Frequency Regulation: No Load to Full Load	Isosynchronous under varying loads from no load to 100% rated load
Frequency Regulation: Steady State	±0.25% of mean value for constant loads from no load to full load.
Insulation	Class H
Sound Level dB(A) Full load at 7M	76

Amperage	
Rated Voltage	Maximum Amps
3Ø Volt 127/220	743 Amps
3Ø Volt 254/440	371 Amps
Main Line Circuit Breaker Rating	800 Amps
Over Current Relay Trip Set Point	880 Amps

Fuel System	
Fuel Tank Capacity	105.8 gallons (400 liters)
Fuel Consumption	L / h
At full load	48.6
At 3/4 load	36.5
At 1/2 load	24.5
At 1/4 load	13.0

Control system	
Controller Brand	Deepsea
Model	DSE7320+DSE890(option)
Module	Manual/Auto start/stop module
Standard function	Engine control
	Generator monitoring
	Generator protection
	Specification
Display	Frequency
	Battery voltage
	Running hour
Warning/shutdown	under/over voltage
	under/over speed
	under/over frequency
	Low oil pressure
	High water temperature
Communication port	USB,4G(DSE890)

Engine Specifications	
Make / Model	VOLVO / TAD754GE
Emissions	EUIIIA/tier3
Starting System	Electric
Design	4-cycle, water cooled, direct injection, natural intake
Displacement	7.15 liters
No. cylinders	6
Bore x Stroke	108 x 130 mm
Gross Engine Power Output	334 hp (246 kW)
Compression Ratio	17 : 1
Engine Speed	1800 rpm
Overspeed Limit	2070 rpm
Oil Capacity	9.52 gallons (36 liters)
Battery	24V 100Ah x 2

Alternator	
Alternator Brand	Stamford
Alternator Model	UCDI274J
Excitation	Brushless,Self-Excited system
Capacity(KVA)	281kva
Power(KW)	224.8kw
Efficiency(%)	90%
Insulation class	Class H
Protection class	Ip23
Steady state voltage regulation	±1%
Voltage control	AVR

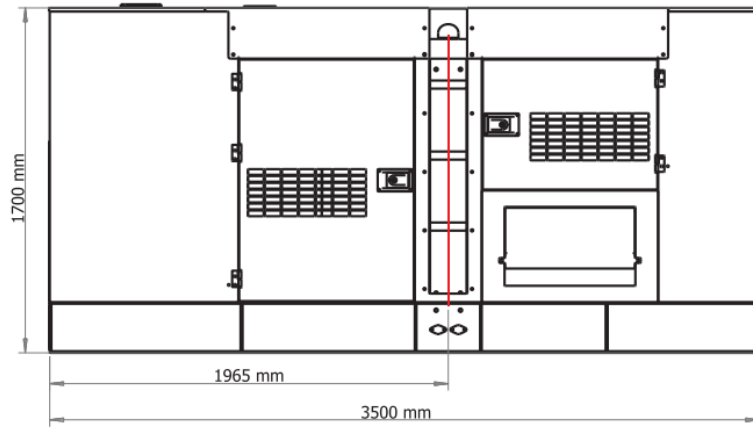
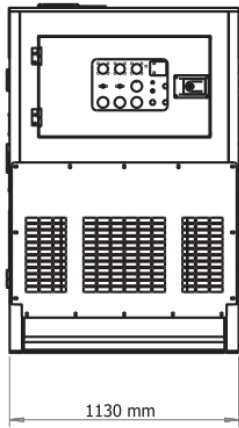
WARRANTY*

Generator

12 months from date of purchase or 1000 hours (whichever occurs first)

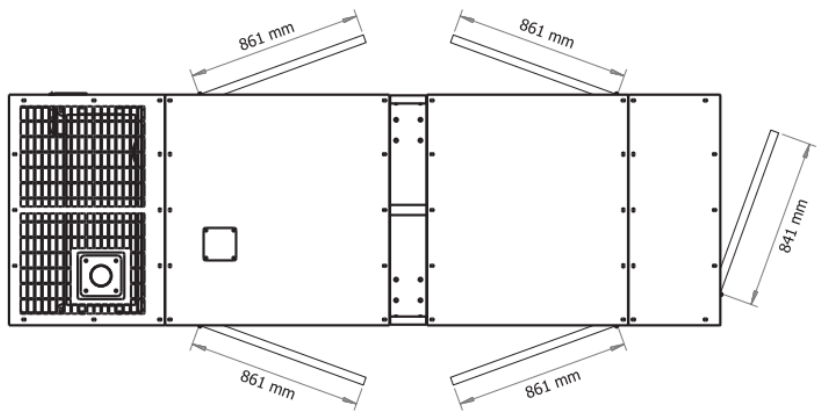
NOTICE

Enough Air flow is extremely important to Generator operation. Improper connection can cause electrocution and/or property damage. Do not connect to any electrical system except through an approved device. Specifications are subject to change without notice.



Weight

Dry Weight	2,650 kg
Wet Weight	2,940 kg
Max. Lifting Point capacity	5,860 kg



TAD754GE

7.15 liter, in-line 6 cylinder



The TAD754GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable in-line six design.

Energy efficiency and Economy

Through careful management of the combustion process, involving precise control of air movement and injection, Volvo Penta has been able to achieve higher levels of efficiency than ever before. This has resulted in improved fuel economy and reduced exhaust emission levels that comply with current requirements and which will enable the engines to satisfy future legislation. Volvo Penta engines offer the highest kWh/Liter fuel, resulting in superior economy and performance.

Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. Well-balanced to produce smooth and vibration-free operation with low noise level. To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

Low exhaust emission

The state of the art, high-tech injection and highly efficient charge air system with low internal losses contributes to

excellent combustion and low fuel consumption. The engine is EPA/CARB Tier 3 & EU Stage 3A emission certified. These regulations are met by using V-ACT™ (Volvo Advanced Combustion technology). V-ACT includes a flexible high pressure Common-rail fuel injection system, an air management system including an external exhaust gas recirculation device and an enhanced electronic controller.

Easy service & maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

- Volvo Penta Electronic management system
- Certified for US/EPA Tier 3 and EU Stage 3A
- High efficient cooling system
- Compact design
- With or without engine-mounted cooling system
- Switchable between 1500/1800 rpm
- Excellent step load performance acc. to ISO 8528-5 G3 governing class
- Low operating cost

50 Hz/1500 rpm

Prime power			Standby power		
kWm	kWe	kVa	kWm	kWe	kVa
219	200	250	242	220	275

60 Hz/1800 rpm

Prime power			Standby power			Gen.eff.
kWm	kWe	kVa	kWm	kWe	kVa	%
222	201	252	245	226	283	92

kWm = kiloWatt mechanical, net with fan*; kWe = kiloWatt electrical = kWm x Generator eff.; kVa = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

*) According to technical data

TAD754GE

7.15 liter, in-line 6 cylinder

Technical Data

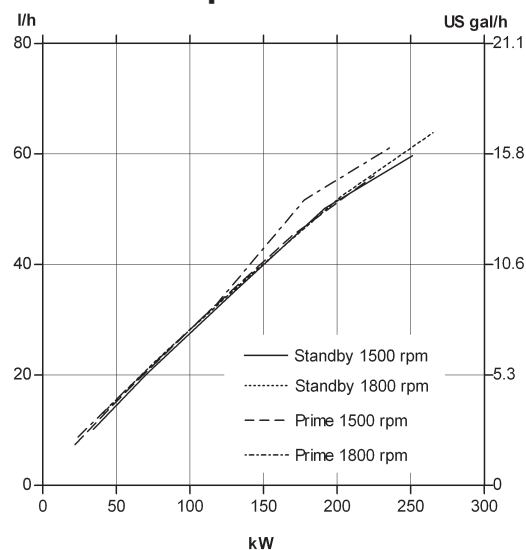
General

Engine designation.....	TAD754GE
No. of cylinders and configuration.....	in-line 6
Method of operation.....	4-stroke
Bore, mm (in.).....	108 (4.25)
Stroke, mm (in.).....	130 (5.12)
Displacement, l (in ³).....	7.15 (436)
Compression ratio.....	17
Dry weight, engine only, kg (lb).....	764 (1684)
Dry weight with cooling system, kg (lb).....	947 (2088)

Performance

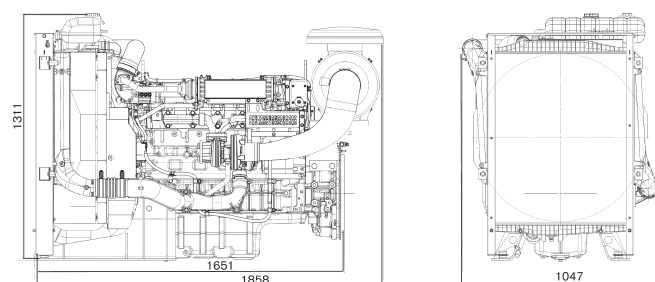
	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	219 (298)	222 (301)
Max Standby Power	242 (329)	245 (333)
Fan power consumption, kW (hp)	11.3 (15)	18.5 (25)

Fuel consumption



Dimensions TAD754GE

Not for installation



Rating guidelines

PRIME POWER rating corresponds to ISO Standard Power for continuous operation. It is applicable for supplying electrical power at variable load for an unlimited number of hours instead of commercially purchased power. A10 % overload capability for governing purpose is available for this rating.

STAND-BY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by electrical power at variable load in areas with well established electrical networks in the event of normal utility power failure. No overload capability is available for this rating.

Technical description

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces
- Piston cooling for low piston temperature and reduced ring temperature
- Drop forged steel connecting rods
- Crankshaft hardened bearing surfaces with Tri-metal bearings
- Keystone top compression rings for long service life
- Replaceable valve guides and valve seats
- 4 valves per cylinder actuated via pushrods driven via camshaft
- PTO positions at flywheel end
- Lift eyelets
- Flywheel housing with connection acc. to SAE 2
- Flywheel for flex plate
- Fixed integrated radiator front engine suspension
- Transport brackets, rear

Lubrication system

- Full flow cartridge insert filter
- Rotary displacement oil pump driven by the crankshaft
- Deep front oil sump
- Oil filler on top
- Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted

Fuel system

- Common rail with two high pressure pumps
- Gear driven fuel feed pump
- Seven hole fuel injection nozzles
- Engine mounted fuel pre-filter with water separator
- Fine fuel filter of cartridge insert type

Intake and exhaust system

- Connection flange for exhaust line
- Waste gate turbo charger, centre low with exhaust flange
- Two-stage air filter, with cyclone
- Heater flange in charge air inlet (with relay)

Cooling system

- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block
- Reliable thermostat with minimum pressure drop
- Pusher fan

Electrical system

- Engine Management System 2 (EMS 2), an electronically controlled processing system which optimizes engine performance. It also includes advanced facilities for diagnostics and fault tracing
- The instruments and controls connect to the engine via the CAN SAE J1939 interface, either through the Control Interface Unit (CIU) or the Digital Control Unit (DCU). The CIU converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments. The DCU is a control panel with display, engine control, monitoring, alarm, parameter setting and diagnostic functions. The DCU also presents error codes in clear text. Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors.

Power standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ / kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% at rated ambient conditions at delivery. Ratings are based on ISO 8528. Engine speed governing in accordance with ISO 8528-5 G3.

Please contact your local Volvo Penta dealer for further information. Please note that products illustrated may differ from production models. Not all models and accessories are available in all markets, and standard equipment may vary between different markets. Every effort has been made to ensure that facts and figures are correct at the time of publication. However, Volvo Penta reserves the right to make changes without prior notice at any time.

VOLVO PENTA

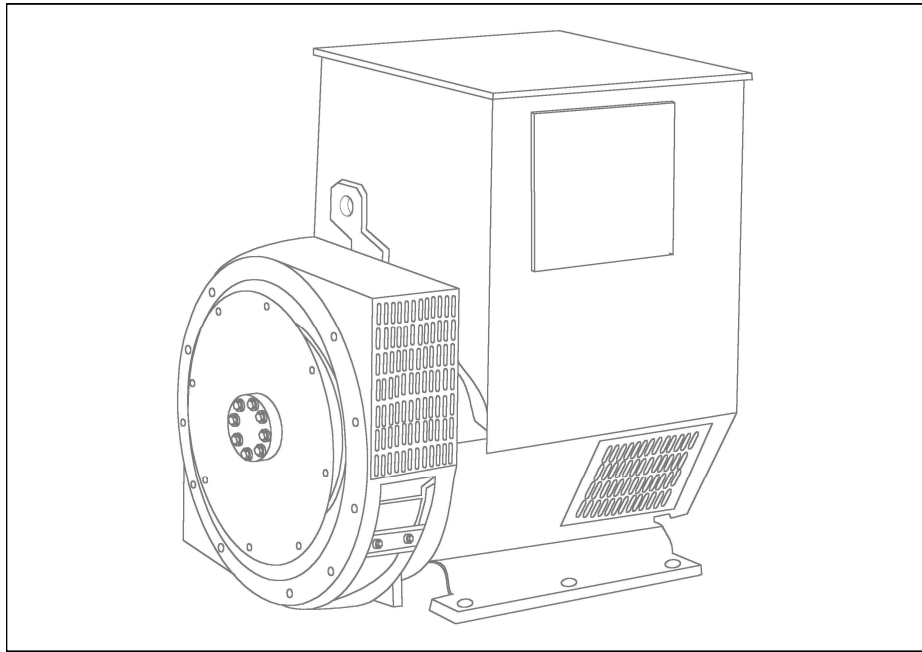
AB Volvo Penta

SE-405 08 Göteborg, Sweden
www.volvopenta.com

STAMFORD[®]

UCDI274J - Winding 17

Technical Data Sheet



UCDI274J

SPECIFICATIONS & OPTIONS

STAMFORD

STANDARDS

Stamford industrial generators meet the requirements of BS EN 60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359. Other standards and certifications can be considered on request.

VOLTAGE REGULATORS

SX460 AVR - OBSOLETE

With this self excited control system the main stator supplies power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage. The exciter rotor output is fed to the main rotor through a three phase full wave bridge rectifier. This rectifier is protected by a surge suppressor against surges caused, for example, by short circuit.

AS440 AVR - STANDARD

With this self-excited system the main stator provides power via the AVR to the exciter stator. The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage. The exciter rotor output is fed to the main rotor through a three-phase full-wave bridge rectifier. The rectifier is protected by a surge suppressor against surges caused, for example, by short circuit or out-of-phase paralleling. The AS440 will support a range of electronic accessories, including a 'droop' Current Transformer (CT) to permit parallel operation with other ac generators.

MX341 AVR

This sophisticated AVR is incorporated into the Stamford Permanent Magnet Generator (PMG) control system. The PMG provides power via the AVR to the main exciter, giving a source of constant excitation power independent of generator output. The main exciter output is then fed to the main rotor, through a full wave bridge, protected by a surge suppressor. The AVR has in-built protection against sustained over-excitation, caused by internal or external faults. This de-excites the machine after a minimum of 5 seconds. An engine relief load acceptance feature can enable full load to be applied to the generator in a single step. If three-phase sensing is required with the PMG system the MX321 AVR must be used. We recommend three-phase sensing for applications with greatly unbalanced or highly non-linear loads.

MX321 AVR

The most sophisticated of all our AVRs combines all the features of the MX341 with, additionally, three-phase rms sensing, for improved regulation and performance. Over voltage protection is built-in and short circuit current level adjustments is an optional facility.

WINDINGS & ELECTRICAL PERFORMANCE

All generator stators are wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains. A fully connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

TERMINALS & TERMINAL BOX

Standard generators are 3-phase reconnectable with 12 ends brought out to the terminals, which are mounted on a cover at the non-drive end of the generator. A sheet steel terminal box contains the AVR and provides ample space for the customers' wiring and gland arrangements. It has removable panels for easy access.

SHAFT & KEYS

All generator rotors are dynamically balanced to better than BS6861:Part 1 Grade 2.5 for minimum vibration in operation.

INSULATION/IMPREGNATION

The insulation system is class 'H'. All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

QUALITY ASSURANCE

Generators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

The stated voltage regulation may not be maintained in the presence of certain radio transmitted signals. Any change in performance will fall within the limits of Criteria 'B' of EN 61000-6-2:2001. At no time will the steady-state voltage regulation exceed 2%.

DE RATES

All values tabulated on page 6 are subject to the following reductions

5% when air inlet filters are fitted.

3% for every 500 metres by which the operating altitude exceeds 1000 metres above mean sea level.

3% for every 5°C by which the operational ambient temperature exceeds 40°C.

Note: Requirement for operating in an ambient exceeding 60°C must be referred to the factory.

NB Continuous development of our products entitles us to change specification details without notice, therefore they must not be regarded as binding.

Front cover drawing typical of product range.

UCDI274J

STAMFORD

WINDING 17

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.		
A.V.R.	MX321	MX341	
VOLTAGE REGULATION	± 0.5 %	± 1.0 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 5)		
CONTROL SYSTEM	SELF EXCITED		
A.V.R.	SX460	AS440	
VOLTAGE REGULATION	± 1.5 %	± 1.0 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	SERIES 4 CONTROL DOES NOT SUSTAIN A SHORT CIRCUIT CURRENT		
INSULATION SYSTEM	CLASS H		
PROTECTION	IP23		
RATED POWER FACTOR	0.8		
STATOR WINDING	DOUBLE LAYER CONCENTRIC		
WINDING PITCH	TWO THIRDS		
WINDING LEADS	12		
STATOR WDG. RESISTANCE	0.017 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED		
ROTOR WDG. RESISTANCE	2.08 Ohms at 22°C		
EXCITER STATOR RESISTANCE	20 Ohms at 22°C		
EXCITER ROTOR RESISTANCE	0.091 Ohms PER PHASE AT 22°C		
R.F.I. SUPPRESSION	BS EN 61000-6-2 & BS EN 61000-6-4, VDE 0875G, VDE 0875N. refer to factory for others		
WAVEFORM DISTORTION	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%		
MAXIMUM OVERSPEED	2250 Rev/Min		
BEARING NON-DRIVE END	BALL. 6310-2RS (ISO)		
	1 BEARING		
WEIGHT COMP. GENERATOR	727 kg		
WEIGHT WOUND STATOR	304 kg		
WEIGHT WOUND ROTOR	271.9 kg		
WR ² INERTIA	2.3744 kgm ²		
SHIPPING WEIGHTS in a crate	740 kg		
PACKING CRATE SIZE	123 x 67 x 103(cm)		
TELEPHONE INTERFERENCE	THF<2%		TIF<50
COOLING AIR	0.69 m ³ /sec 1463 cfm		
VOLTAGE SERIES STAR	600V		
VOLTAGE PARALLEL STAR	300V		
VOLTAGE SERIES DELTA	346V		
kVA BASE RATING FOR REACTANCE VALUES	305		
X _d DIR. AXIS SYNCHRONOUS	2.01		
X' _d DIR. AXIS TRANSIENT	0.12		
X'' _d DIR. AXIS SUBTRANSIENT	0.07		
X _q QUAD. AXIS REACTANCE	0.92		
X'' _q QUAD. AXIS SUBTRANSIENT	0.11		
X _L LEAKAGE REACTANCE	0.06		
X ₂ NEGATIVE SEQUENCE	0.09		
X ₀ ZERO SEQUENCE	0.04		
REACTANCES ARE SATURATED VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED			
T' _d TRANSIENT TIME CONST.	0.045s		
T'' _d SUB-TRANSTIME CONST.	0.015s		
T' _{do} O.C. FIELD TIME CONST.	1.27s		
T _a ARMATURE TIME CONST.	0.03s		
SHORT CIRCUIT RATIO	1/X _d		

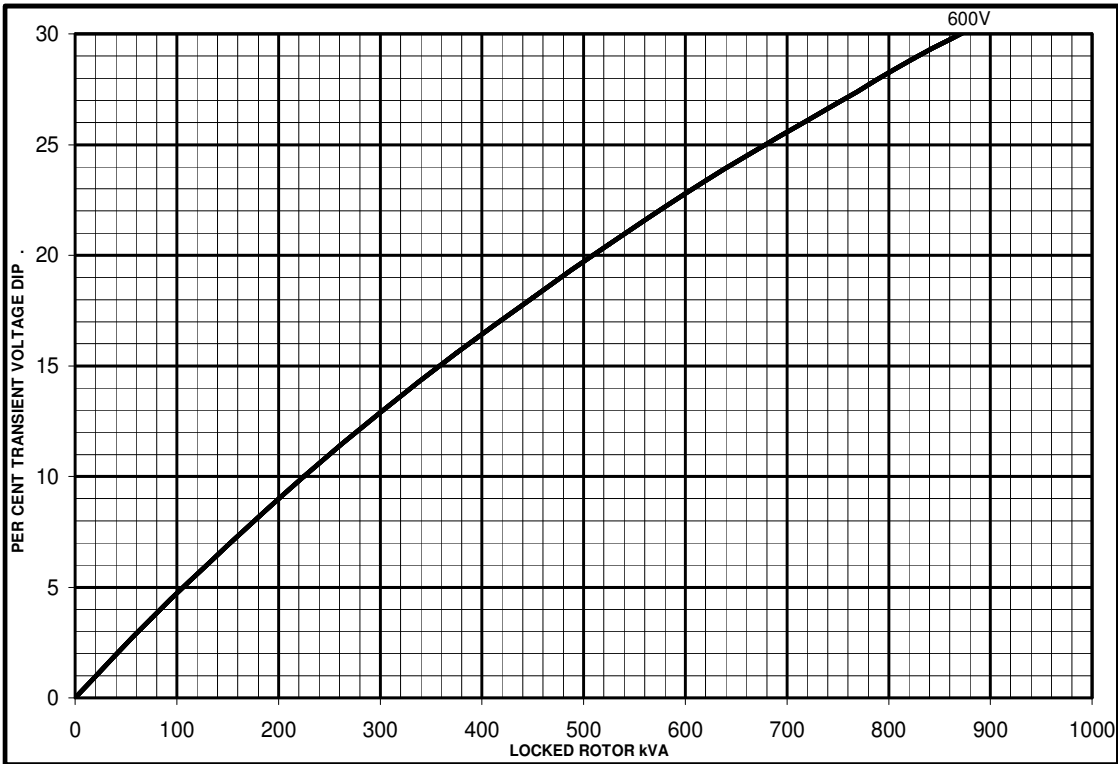
UCDI274J

STAMFORD

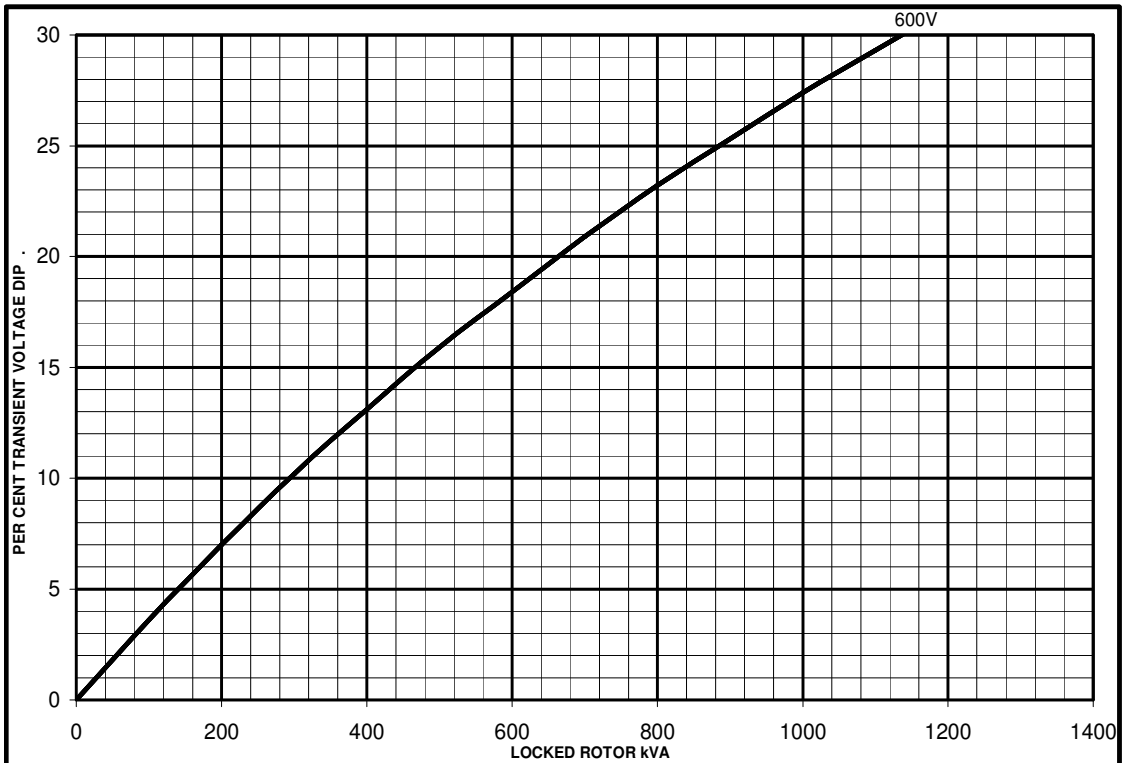
Winding 17

SX

Locked Rotor Motor Starting Curves



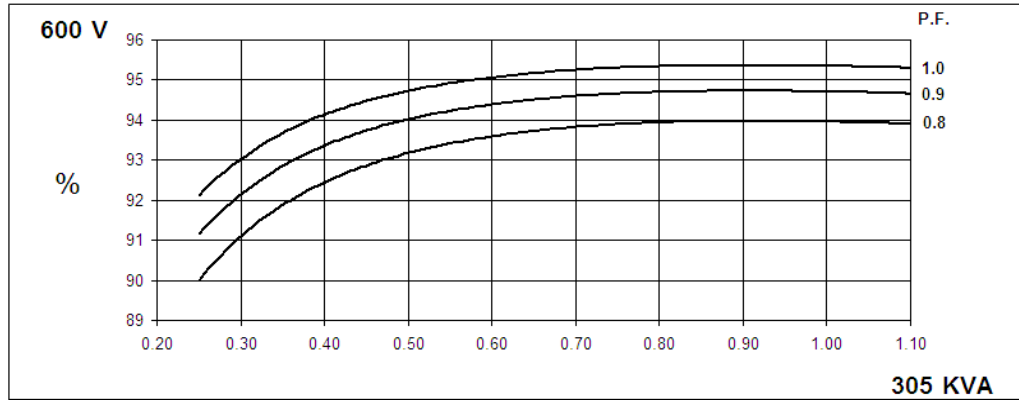
MX



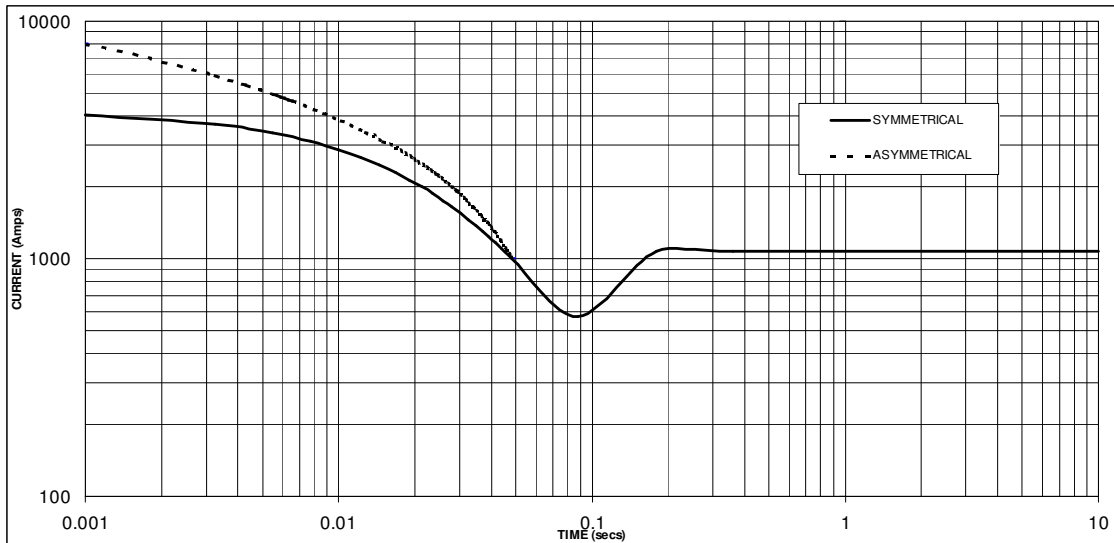
UCDI274J
Winding 17

STAMFORD

THREE PHASE EFFICIENCY CURVES



Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed Based on star (wye) connection.



Sustained Short Circuit = 1075 Amps

Note

The following multiplication factor should be used to convert the values from curve for the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

UCDI274J**STAMFORD****Winding 17 / 0.8 Power Factor****60Hz****RATINGS**

Class - Temp Rise	Cont. F - 105/40°C	Cont. H - 125/40°C	Standby - 150/40°C	Standby - 163/27°C
Series Star (V)	600	600	600	600
Parallel Star (V)	300	300	300	300
Series Delta (V)	346	346	346	346
kVA	281.0	305.0	328.0	334.0
kW	224.8	244.0	262.4	267.2
Efficiency (%)	94.0	94.0	93.9	93.9
kW Input	239.2	259.7	279.4	284.6

Dimensional and Torsional Drawing

For dimensional and torsional information please refer to the alternator General Arrangement and rotor drawings available on our website (<http://stamford-avk.com/>)

STAMFORD

www.stamford-avk.com

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DSE7310/20 MKII

AUTO START & AUTO MAINS FAILURE CONTROL MODULES



KEY FEATURES

- Configurable power-up mode
- MPU fail delay
- Enhanced graphical user interface
- Drag & drop advanced PLC editor
- MSC ID within PLC GenComm override
- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available
- Customisable power-up text and images
- DSENet expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232 & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- 3 phase mains (utility) sensing and protection (DSE7320 MKII only)
- Automatic load transfer control (DSE7320 MKII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains current and power monitoring (kW, kvar, kVA, pf) (DSE7320 MKII only)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Independent earth fault protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 2 configurable volt-free relay outputs
- 6 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- 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
- Simultaneous use of RS232 and RS485 communication ports
- True dual mutual standby using RS232 or RS485 for accurate engine hours balancing.
- MODBUS RTU support with configurable MODBUS pages.
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Modules can be integrated into building management systems (BMS) using MODBUS RTU

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE7320 MKII only) for convenience.
- 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.

SPECIFICATIONS

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

510 mA at 12 V, 240 mA at 24 V

MAXIMUM STANDBY CURRENT

330 mA at 12 V, 160 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 & F

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

ANALOGUE INPUTS B, C, D & E

Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

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

OUTPUTS C & D

8 A AC at 250 V AC (Volt-free)

AUXILIARY OUTPUTS E, F, G, H, I & J

2 A DC at supply voltage

DIMENSIONS

OVERALL
245 mm x 184 mm x 51 mm
9.6" x 7.2" x 2.0"

PANEL CUT-OUT

220 mm x 160 mm
8.7" x 6.3"

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

HEATED DISPLAY VARIANT

-40 °C to +70 °C
-40 °F to +158 °F

RELATED MATERIALS

TITLE

DSE7310 MKII & DSE7320 MKII Installation Instructions
DSE7310 MKII & DSE7320 MKII Operator Manual
DSE7310 MKII & DSE7320 MKII Configuration Suite PC Manual

PART NO.

053-181
057-253
057-243

DEEP SEA ELECTRONICS LTD

Highfield House, Hunmanby Industrial Estate, Hunmanby YO14 0PH
TELEPHONE +44 (0) 1723 890099
EMAIL sales@deepseaelectronics.com **WEBSITE** www.deepseaelectronics.com

DEEP SEA ELECTRONICS INC USA

3230 Williams Avenue, Rockford, IL 61101-2668 USA
TELEPHONE +1 (815) 316 8706
EMAIL usasales@deepseaelectronics.com **WEBSITE** www.deepseaelectronics.com

DSE7310/20 MKII

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

The DSE7310 MKII is an Auto Start Control Module and the DSE7320 MKII is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, 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, remote PC and via SMS text alerts (with external modem).

The DSE7320 MKII will also monitor the mains (utility) supply. The modules include USB, RS232 and RS485 ports as well as dedicated DSENet® terminals for system expansion.

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

The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality. Dual mutual standby is now available on both the DSE7310 MKII & DSE7320 MKII using RS232 or RS485 communications. This provides for a simpler and more convenient installation with more advanced features such as true engine hours balancing.

The modules can be easily configured using the DSE Configuration Suite PC software. Selected front panel editing is also available.

ENVIRONMENTAL TESTING STANDARDS

ELECTRO-MAGNETIC COMPATIBILITY

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

ELECTRICAL SAFETY

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

TEMPERATURE

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

VIBRATION

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

HUMIDITY

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

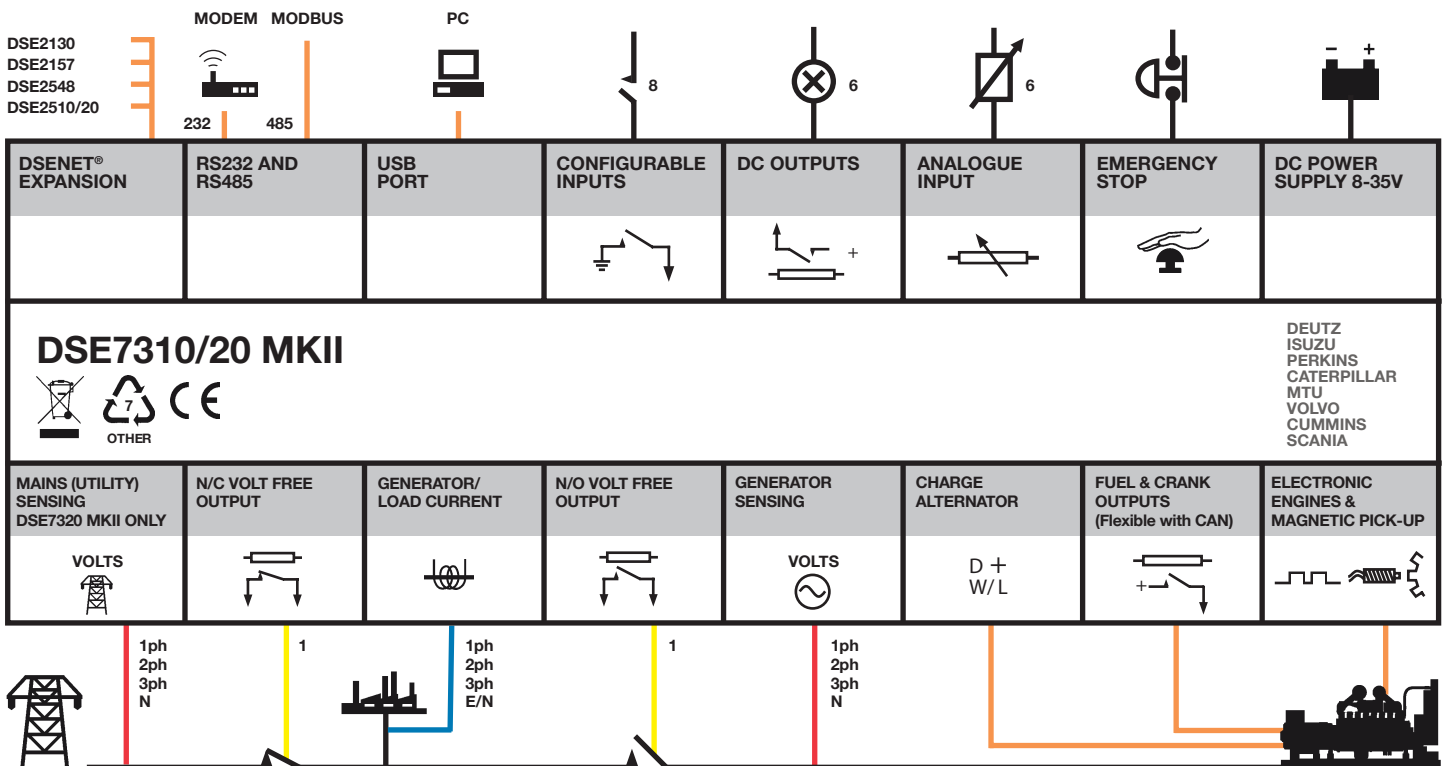
SHOCK

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

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

BS EN 60529
IP65 - Front of module when installed into the control panel with the supplied sealing gasket.

COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF GEN-SET APPLICATIONS



WARRANTY

Cummins Generator Technologies offers highly competitive warranty on all STAMFORD® and AvK® products.

Standard base warranty:

S-range products come with a premium 3-year support as standard. Other product ranges have warranty support specific to the application requirements, allowing increased duration for stand by and additional storage period for marine at no extra cost.

For specific warranty coverage information, please find warranty statement reference below and contact your local service regional office for more information or contact us below.

We understand that your projects don't always start from day 1 of delivery so we can arrange with you to delay your warranty until your alternator is ready to begin performing. For marine industries this means a 12 month warranty can begin anytime within the first 36 months after purchase, for standby applications this is 24 months in 30 and for prime power/continuous applications the 12 month warranty can begin anytime within 18 months.

How do I get information on my STAMFORD® and AVK® product warranty coverage?

Please [contact the warranty team](#) ✉ for any queries on warranty coverage.

Benefits of alternator warranty with STAMFORD | AvK:

- Offers competitive warranty duration as a standard with the sale of product
- Tailored duration of warranty coverage to meet specific unit requirements
- Coverage of costs against warrantable failures *(details warranty statement for limitations)
- Efficient repair or replacement to minimise downtime
- Technical support if required over the phone
- World class CGT customer support assistance with any issue
- Minimized downtime with repairs completed by factory-trained technicians using genuine Cummins parts.

Extended warranty

For information on what our extended warranty options are please contact your local regional office or our team below.

Warranty expiration

Please [contact us](#) ✉ to find out when the warranty on your alternator expires send us your serial number.

VOLVO PENTA

VOLVO PENTA NORTH AMERICA LIMITED WARRANTY STATEMENT

INDUSTRIAL



V O L V O P E N T A

VOLVO PENTA NORTH AMERICA LIMITED MANUFACTURER WARRANTY STATEMENT – INDUSTRIAL

INTRODUCTION

New Volvo Penta industrial engine configurations, parts and accessories and components (herein “Product” or “Products”) are covered by the Volvo Penta North America Limited Warranty (herein “Warranty”) according to the terms, conditions and limitations stated herein. Engine’s type-approved for conformity with US EPA or California ARB regulations are also covered by the Emission Control System Warranty Statement (available at www.volvopenta.com). Please take the time to read this Warranty Statement and the Service book carefully along with the Operator’s Manual which has also been provided with the Product before starting or using it for the first time.

This Warranty is offered by AB Volvo Penta to the owner or end user of a Product (herein “Customer”) and is in addition to any rights that Customer may have under applicable mandatory law.

This Warranty will be fulfilled in cooperation with Volvo Penta Business Partners (including Importers, Distributors, Dealers and Workshops, that have been authorized by Volvo Penta).

On the day the new Product is delivered, the party who sold it, or a Volvo Penta Business Partner, will register the Product online in Volvo Penta’s Product handling system called Product Center. For convenience, a printed customer copy may be obtained from a Volvo Penta Business Partner. For information on how Volvo Penta handles personal data pertaining to the Product registration, please visit www.volvopenta.com.

To enable Customer to assert its rights in connection with this Warranty, the Volvo Penta Business Partner will check the warranty validity in Product Center. A copy of the relevant invoice or receipt is valid as warranty certification for replacement parts and accessories.

Contact a Volvo Penta Business Partner if an Operator’s Manual has not been received or in case of uncertainty whether product registration has been carried out or not.

GENERAL

This is to certify that **AB Volvo Penta**, (herein after “Volvo Penta”) Gothenburg, Sweden, warrants that the Product is free from defects in material and workmanship for the Limited Warranty Period stated below under the terms and conditions and with the limitations specified in this Warranty.

This Warranty does not apply in countries where Volvo Penta is not represented. Please consult www.volvopenta.com for list of countries where Volvo Penta is represented.

GEOGRAPHIC SCOPE

This warranty is valid solely for engines registered and/or normally operated within the United States, Canada, and other selected areas including Bermuda, Puerto Rico, Bahamas, U. S. Virgin Islands, Saipan, and Guam. The warranty (if any) for vessels operated outside these areas is described in the AB Volvo International Warranty statement. Copies of the International Warranty Statement are available at www.volvopenta.com.

Note: Outside the U.S. and Canada, there may be additional charges based on local practices and conditions. These charges may include, but are not limited to; freight, insurance, taxes, import duties, and/or other financial charges, including those levied by local governments and their respective agencies. These charges are not covered by the Volvo Penta Limited Warranty and are the responsibility of the retail purchaser.

V O L V O P E N T A

LIMITED WARRANTY PERIODS*

The Warranty's validity begins at the time the Product was delivered to the first Customer and will continue for the period listed below. The delivery date is recorded in Product Center together with all the other relevant Product information and is accessible to both Volvo Penta Business Partners and the Customer. It is the Customer's responsibility to make sure that the registration in Product Center has been done.

In case a Product is replaced or repaired during the Limited Warranty Period or additional coverage period at no to the Customer, the replacement Product or the part or parts used for repair receive the remainder of the original Limited Warranty Period for the original Product that was repaired or replaced. For example, if a Product is registered for warranty in Product Center and is entitled to a 24-month Limited Warranty Period, and a warranty repair is performed after 22 months, any parts used for the repair at that time will receive the remaining 2 months warranty coverage.

Removed components that are replaced under warranty by AB Volvo Penta or any Volvo Penta Dealer are the property of AB Volvo Penta.

** Products which are not delivered to the customer more than three (3) years from the date of shipment from Volvo Penta do not have coverage under the Limited Warranty*

The Limited Warranty Period will be as follows, months or Operation Hours, whichever occurs first.

Industrial diesel engines for off-road and stationary applications, VE:

Twenty-four (24) months or a maximum of three thousand (3000) hours of operation whichever occurs first, with a minimum of (12) months coverage.

Industrial diesel engines for Gen set applications, GE prime:

Twenty-four (24) months or a maximum of three thousand (3000) hours of operation whichever occurs first, with a minimum of (12) months coverage.

Industrial diesel engine applications with a power output setting for stand-by units:

Twenty-four (24) months or a maximum of one thousand (1000) hours, whichever occurs first.

Industrial diesel engine applications with a power output setting for emergency fire pumps:

Twenty-four (24) months or a maximum of one thousand (1000) hours of operation, whichever occurs first.

Industrial electromobility applications on and off-road:

Twenty-four (24) months or a maximum of four thousand (4000) hours of traction voltage operation, whichever occurs first.

Selected emission control components on new engines may be warranted by the U.S. EPA or the State of California. Refer to the U.S. EPA Emission Control Warranty or the California Emission Control Warranty Statements for complete information.

This warranty is conditional upon Volvo Penta being able to gather and access the data generated by and stored in the Volvo Penta product.

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The below is specifically applicable for Volvo Penta electric/hybrid drivelines and Volvo Penta connected products. i.e units equipped with a telematic device, such as TGW, easy connect dongle etc.

Volvo Penta electric/hybrid drivelines and connected products are equipped with one or more systems which may gather and store information about the Volvo Penta product (the "Information Systems"), including but not limited to information relating to the product's condition and performance, and information relating to the operation of the Volvo Penta product (the "Product Data"). The Customer may not interfere with the operation of the Information Systems in any way. Notwithstanding any termination or expiry of this warranty, the Customer acknowledges and agrees that AB Volvo Penta may: (i) access the Information Systems at any time (including remote access); (ii) gather the Product Data; (iii) store the Product Data on Volvo Group systems; (iv) use the Product Data in order to provide services to the Customer, as well as for its own and other reasonable business purposes; and (v) share the Product Data within the Volvo Group and with selected parties.

Definitions of components covered, full electrical

- Electrical machine(s) EM
- Energy Storage System (ESS)
- Electrical motor drive (EMD)
- Direct Current Converter (DC/DC)
- Junction Box (for traction voltage con. TVJB)
- High Power Control Unit (HPCU)
- Traction Voltage Monitoring Unit (TVMU)
- Powertrain Control Unit (PCU)
- Energy Storage Control Module (ESCM)
- Onboard Charger (OnBC)
- Power cables (Traction Voltage)
- Air Compressor (Traction Voltage)
- Active Cooling Unit (ACU) system

Parts & Accessories

"Parts" refers to all spare parts not used for repair or replacement under this Warranty. "Accessories" refers to items other than the engine, transmission and engine assembled parts.

PARTS & ACCESSORIES, SOLD OVER THE COUNTER, AND NOT INSTALLED BY A VOLVO PENTA DEALER

Twelve (12) months

ACCESSORIES AS PART OF ENGINE PACKAGE (installed by OEM/dealer)

Twenty-four (24) months (or carry the same coverage period as the Product it is attached to if this is different). The Limited Warranty Period's start date is the same as for the industrial application, i.e. the time of transfer to the Customer (specified as the delivery date in Product Center). A copy of the registration in Product Center can be printed out.

The Limited Warranty Period for the Complete Product will last from the date of delivery to the first user until the end of the number of months or hours of operation stated in the industrial application, whichever occurs first.

V O L V O P E N T A

PARTS & ACCESSORIES, SOLD BY, AND INSTALLED BY A VOLVO PENTA DEALER (Purchased after engine package delivery)

Twenty-four (24) months or a maximum of three thousand (3000) hours of operation, whichever occurs first.

The Twenty-four (24) month Parts warranty will apply and follow the same terms and conditions as the AB Volvo Penta North America Limited Warranty. The warranty coverage will begin from the date of sale specified by the invoice/ transaction document. The customer is required to produce an invoice/ receipt as proof of purchase to qualify for warranty in these cases.

WHAT THE NORTH AMERICA LIMITED WARRANTY COVERS

This Warranty covers defective Products. Under this Warranty, a Product is considered defective if it is found, during the limited warranty period, to have an inherent defect in material or workmanship that existed in it at the time of shipment from the relevant Volvo Penta facility.

Volvo Penta will either repair or replace defective Products, whichever is decided by Volvo Penta.

WHAT THE NORTH AMERICA LIMITED WARRANTY DOES NOT COVER

This Warranty does not apply to defects that are likely to have been caused by transportation, installation or repairs.

This Warranty does not apply to defects that are likely to have been caused as a result of any of the following:

- Abnormal use
- Carelessness, misuse
- Competition use or preparation for competition use
- Over or under loading
- Insufficient lubrication
- Corrosion as determined by Volvo Penta
- Cavitation
- Normal wear and tear
- Physical damage such as punctures, tears, etc. which are not related to a product defect
- Use of parts or chemicals other than genuine Volvo Penta parts
- Lack of, insufficient or incorrect maintenance
- Incorrect installation or parameter setting
- Accidents
- Fuel contamination or use of fuel, oil and / or lubricants not specified in the Operator's Manual
- Improper storage, including, but not limited to: gummed cooling or fuel systems, dried and cracking belts, hoses, impellers, bellows, and seals, paint flaking and lifting, seized components, corrosion, and freeze damage
- Failure to comply with Operator's Manuals, maintenance instructions, installation instructions or any other applicable Volvo Penta instructions
- Alterations or modifications of the Product, including alterations or modifications of software or electronic devices including override, removal or change to safety shutdown/inducement system parameters or strategy
- Repair work (including installation and/or update of software) having been performed by a workshop other than a Volvo Penta Business Partner
- Breaking of seals
- Usage in violation of law or for unintended purposes
- The defect having become aggravated due to failure by the driver/operator to take immediate and appropriate action after such time as the defect became known or should have become known to the driver/operator or after activation of the vessel/machine warning indicator system
- Natural phenomenon, including but not limited to, lightning, thunderbolts, flooding or other force majeure events,

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including but not limited to, war uprisings, acts of terror, strikes, widespread diseases, etc.

- Low load: Volvo Penta state that the average engine load shall not be kept below 30% for no more than 20% of the duration of the day, under varying load conditions. Low load is considered by Volvo Penta to be less than 30% of the average engine load, under varying load conditions.

This Warranty does not apply to defects caused by the Product's combination with engines, transmissions, or any other mechanical or electronic product or accessory not sold or approved in writing by Volvo Penta.

This Warranty does not apply to any Product: (i) which has been sold, re-sold, exported, re-exported or otherwise handled in violation of any applicable trade sanctions, export control regulations, rules or licenses, including those of the United States of America ("US"), the United Nations ("UN") or the European Union ("EU") or its member states;

(ii) used in Military End Use, as defined in applicable EU Common Military List or similar applicable national instrument, in a country subject to a UN, US or EU arms embargo or used in connection with weapons of mass destruction, or; (iii) if the performance of the repair or replacement of the Product or other related services would be prohibited under applicable EU, US or other national trade sanctions law or export control regulations.

To claim a remedy under this Warranty, the Customer of a Product must report any defect in the Product to a Volvo Penta Business Partner. A list of Volvo Penta Business Partners is available at www.volvopenta.com. Such a report must be made as soon as possible and no later than fourteen (14) days from the date when the Customer first observed the defect or ought to have observed it and consequently in no case later than fourteen (14) days after the expiry of the Limited Warranty Period.

The Customer is recommended to secure evidence of the date when the report was made, for example a copy of a letter. The Customer must establish the eligibility of this Warranty or additional coverage by showing necessary documentation.

This Warranty is conditional upon Volvo Penta being able to gather, access and use data from the Product at any time for warranty purposes

LIMITATIONS OF LIABILITY

The repair and replacement remedies described under "WHAT THE NORTH AMERICA LIMITED WARRANTY COVERS" above are the sole and exclusive remedies available to the Customer in respect of this Warranty.

Except as provided for in this Warranty, Volvo Penta is not liable to Customer whether in contract, tort (including negligence), breach of statutory duty, or otherwise, for any direct, indirect, incidental or consequential loss (including but not limited to loss of use, loss of income, loss or disturbance of production, loss of profits, loss of time, loss of property, cost of travelling, cost of transport, extra costs incurred to make the Product accessible, cost of cranes) arising under or in connection with this Warranty.

All remedies under this Warranty must be carried out by a Volvo Penta Business Partner during normal working hours.

Volvo Penta does not authorize anyone to assume any other liability on its behalf in connection with the sales of Products than described in this Warranty. The performance of a remedy or of any other service by a Volvo Penta Business Partner does under no circumstances constitute an acceptance or acknowledgement of liability.

Volvo Penta reserves the right to make any changes to products manufactured and/or sold at any time without prior notice and without incurring any liability or obligation to make the same or similar changes to Products

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previously manufactured and/or sold.

LIMITATION AND DISCLAIMER OF IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS TO THE EXTENT PERMITTED BY APPLICABLE LAWS:

1. VOLVO PENTA DOES NOT MAKE ANY IMPLIED WARRANTY OF MERCHANTABILITY AS TO ANY PRODUCT OR PART, WHETHER OR NOT THAT PRODUCT OR PART IS COVERED BY ANY EXPRESS WARRANTY CONTAINED HEREIN;
2. VOLVO PENTA DOES NOT MAKE ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF;
3. IN THOSE JURISDICTIONS WHERE IMPLIED WARRANTIES MAY NOT BE DISCLAIMED, ANY IMPLIED WARRANTY IS LIMITED IN DURATION TO THE DURATION OF THE EXPRESS WARRANTIES DESCRIBED IN THIS WARRANTY STATEMENT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.
4. THE REPAIR OR REPLACEMENT OF PARTS OR THE PERFORMANCE OF SERVICE UNDER THIS WARRANTY DOES NOT EXTEND THE LIFE OF THIS WARRANTY BEYOND ITS ORIGINAL EXPIRATION DATE.

CUSTOMER'S OBLIGATIONS - IMPORTANT

As Volvo Penta does not have any control over the installation of its Product(s) we recommend the Customer to ensure that the Volvo Penta Business Partner checks and ensures that the Product(s) is (are) correctly installed.

A correct installation is a condition for the validity of this Warranty.

The Customer is liable for the operation, maintenance and care of Volvo Penta Products in accordance with the instructions and requirements stated in the Operator's Manual during and after the Limited Warranty Period. Operation should be in accordance with the engine application definition.

Records should be kept of all maintenance services performed including engine oil and filter changes. This record of proper maintenance is required for the purpose of determining warranty coverage on repairs and it is the responsibility of the Customer to transfer such documents to the subsequent Customer. Nothing in this Warranty Statement shall prevent Customer from transferring this Warranty to a subsequent purchaser. However, it will be Customer's responsibility to ensure that all of the necessary documentation is provided to the new Customer to enable the new Customer to benefit from this Warranty.

All warranty services relating to the Products have to be performed by a Volvo Penta Business Partner.

OTHER INFORMATION

Volvo Penta reserves the right to change or improve the design of any Volvo Penta product without assuming any obligation to modify any Volvo Penta product previously manufactured.

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REMEDIES AND EXCLUSION OF CERTAIN DAMAGES

Any part of the Volvo Penta engine or power package that is covered by this warranty and that is found in the reasonable judgment of Volvo Penta to be defective in materials or workmanship will be repaired or replaced at Volvo Penta's option. If a problem occurs, the owner must present the product to an authorized Volvo Penta Dealer in a timely manner. All warranty repairs will be made by an authorized Volvo Penta Dealer at no charge during the warranty period and within a reasonable period of time during the dealer's normal business hours. Parts replacement will be made using genuine new or remanufactured Volvo Penta parts. Volvo Penta's responsibility in respect to warranty claims is limited to making the required repairs or replacements. All parts will be shipped via standard ground methods. Engines or parts provided under this warranty assume the identity of the engine or part being replaced and are entitled to the remaining warranty coverage only.

THE REPAIR AND REPLACEMENT REMEDIES DESCRIBED IN THIS WARRANTY STATEMENT ARE THE OWNER'S SOLE AND EXCLUSIVE REMEDY. IN NO EVENT SHALL VOLVO PENTA BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFITS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE. THE TERMS, LIMITATIONS AND DISCLAIMERS CONTAINED IN THIS LIMITED WARRANTY, AS WELL AS THOSE DOCUMENTS PREPARED IN CONJUNCTION WITH THE SALE OF VOLVO PENTA PRODUCTS, MAY NOT BE MODIFIED, ALTERED, OR WAIVED BY ANY ACTION, INACTION OR REPRESENTATIONS, WHETHER ORAL OR IN WRITING, EXCEPT UPON THE EXPRESSED, WRITTEN AUTHORITY OF A MANAGEMENT LEVEL EMPLOYEE OF VOLVO PENTA.

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Warranty and Performance Guarantee

MANUFACTURER WARRANTY

Each new generator purchased shall be free of defects in materials and workmanship under normal use and service for a period of One Year or 1000 running hours, whichever comes first. This warranty shall cover the entire generator and any accessories that installed at the time of delivery.

GENERATOR SET'S WARRANTY COVERAGE				
MONTHS	HOURS	TRAVEL	PARTS	LABOR
0 - 12	1000	On Approval	Covered	Covered

WARRANTY CLAIMS PROCEDURE

Your generator dealer maintains Twenty Four Hour availability for all Warranty and Service during the warranty period. To obtain service under this Warranty within the warranty period please notify your dealer as soon as you discover the issue within 12 hours. Please have your generator model, invoice number, verification of the hours displayed on the hour meter and a brief description of the failure. Any supporting information to help us solve your warranty claim as quickly and accurately as possible; such as photos and videos, is highly recommended. Please then submit your claim information via email in which your ticket will be received immediately 24 hours per day, seven days per week including holidays. After your warranty claim is approved any labor shall be needed, it will be performed during regular business hours for the duration of the warranty. 2 year extended service plans are available. Any warranty claim or repair that is to be performed by a repair facility other than your dealer, it's service network partners and/or chosen technicians requires prior approval.

DO NOT MAKE REPAIRS WITHOUT AUTHORIZATION

When submitting a warranty claim for evaluation please do not make any changes without further authorization. Do not remove any parts of any kind from the generator. Do not add or drain any fluid such as but not limited to coolant or lubricant. Warranty coverage could be affected if anything is removed from the generator without prior claim authorization.

SUPPLIES

This warranty shall fully cover the cost of any and all service or maintenance supplies needed to properly complete your warranty claim including coolant, oil and filters which may be removed from the generator during service and repair.

MAJOR COMPONENTS

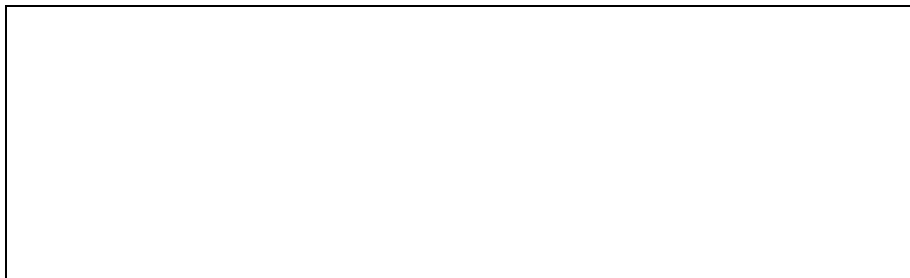
Your generator set was assembled using top name brand equipment, hardware and parts all with their own respective manufacturer warranties. Some of these components may be covered beyond your warranty period.

Warranty and Performance Guarantee

For warranty information on specific core components such as engine, alternator, control panel and breaker please contact your sales representative.

SERVICE AND LABOR

Your Dealer shall offer only certified technicians if labor is required to properly satisfy your warranty claim. In an effort to offer world-class, localized service your dealer maintains a network of certified service partners, businesses and technicians who are authorized to properly perform service as needed. In regions or remote locations without a service partner such as the one shown below, prior approval is required for any parties performing work of any kind to your generator including repairs or maintenance. Extended service plans are highly recommended and available to anyone operating their generator in a remote area or extraordinary conditions. Below is the certified technician in your region:



RESPONSE TIME

We guarantee a thorough response to all warranty claims. All properly submitted warranty claims will be responded to with 24 hours for the duration of your generator's warranty. We make no guarantee on response time or lead time for any respective component manufacturer. Please note that parts availability for the diesel engine in your generator is subject to availability and lead times given by Perkins Engines Inc. Your dealer makes no guarantee for availability or lead time on needed replacement parts from any respective component or part manufacturer.

WARRANTY EXCLUSIONS

Alterations and Modifications to the generator set without prior authorizations from your dealer are prohibited. Your dealer reserves the right to refuse warranty due to poor storage practices such as but not limited to excessive or prolonged unobstructed saltwater or seawater mist over 45 days or storage under prolonged moisture sources such as leaking roofs, drains or gutters. This warranty does not cover damages to the generator directly caused by abnormal weather, storms or other events that can be best described as force majeure. This warranty does not cover damages that occur to the generator set, enclosure or trailer during transportation or motor vehicle accidents.

THIS WARRANTY DOES NOT COVER

Warranty and Performance Guarantee

- A. Damage-To or Defects to any part of the generator resulting from modifications by customer.
- B. Damage-To or Defects to any part of the generator resulting from unauthorized repairs during the warranty period by any party other than your dealer, it's service network partners and/or chosen technicians without prior approval. This excludes normal maintenance.
- C. Damage-To or Defects to any part of the generator resulting from a failure to perform normal maintenance.
- D. Environmental changes incurred during the course of the warranty period are the owner's responsibility.
- E. Any overtime charges or additional costs for labor or travel outside of standard business hours.
- F. Hauling or Trailering Charges.

WARRANTY DISCLAIMER

All operators of the generator should be made aware of their responsibility to adhere to this warranty process when they notice anything unusual about the generator. Your Dealer is not responsible for damages caused operator error of any kind. Regular maintenance is required on your generator at all times including the trailer and enclosure where applicable. It is important to check your generator before each and every use for anything unusual. You should always make sure the enclosure is in proper working condition with all hinges and hardware properly fastened. Regular wear and tear to the exterior of the generator set is not covered by this warranty. It is important to tend to any cosmetic defects such as scratches, dings and dents in the paint or finish of the trailer and generator's enclosure as soon as you notice them.

SUPPORT CONTACTS :

DEEP SEA ELECTRONICS INC USA

3230 Williams Avenue Rockford, IL
61101

Tel: +1 (815) 316 8706

Fax: +1 (815) 316 8708

Email: USAsales@deepseaelectronics.com

Email: USAsupport@deepseaelectronics.com

Web: www.deepseaelectronics.com

STAMFORD ALTERNATORS news.stamford-avk.com

For Applications Support: applications@cummins.com

For Customer Service: service-engineers@stamford-avk.com

For General Enquiries: info@cumminsgeneratortechnologies.com

PERFORMANCE GUARANTEE

Warranty and Performance Guarantee

This generator set was built with the utmost quality and craftsmanship only using the absolute best brand name components obtained through proper sales channels. Your dealer guarantees that its diesel generators will always perform as intended and meet or exceed the generator's expected performance. This performance guarantee covers the entire generator set, its core components such as engine, alternator and/or enclosure where applicable.

ENGINE

If the buyer should have any indicator that the engine or engine emissions are not satisfactory within the warranty period, the issue will be covered by the generator's Warranty. If the buyer should have any indicator that the engine or engine emissions are not satisfactory outside of the warranty period, but not due to user error or mechanical fault they can USA contact the engine manufacturer directly for advice on how to resolve the issue.

ENGINE MANUFACTURER:

SPECIFIC ENGINE INFORMATION:

ENCLOSURE

The quality of our generator's enclosure is extraordinary, and our enclosures have a performance guarantee that cover both the enclosure itself and the enclosure's sound attenuation. The generator set shall have a sound level of 72 decibels or less at a distance of Seven Meters or Twenty Three Feet. If the buyer should have any indicator that the unmodified enclosure's sound level exceeds 72 decibels, then your dealer shall cover the needed repair or alteration.

CAPABILITY STATEMENT

CORE COMPETENCIES

Specialized Power Systems is a supplier and dealer of enterprise level products for On-Site, Remote and Off Grid Power Systems such as Diesel Generators, Lithium Batteries and Automatic Transfer Switches. Specialized Power Systems also offers complete (low voltage) power systems and equipment brokerage services.

Products: Lithium Batteries, Diesel Generators, Inverters, Solar Light Towers, Zero Emission Machinery, Off Grid Wind and Solar Power Systems.

Services: Prototype Design, OEM Services, Equipment Asset Management, Equipment Brokerage for new, used, and end of life power generators and machinery.

DIFFERENTIATORS

In addition to Specialized Power's complete catalog of pre-designed batteries and generators, Specialized Power is also a leading source for custom design and custom packaging for lithium batteries and diesel generators. Our proven designs are in use every day across the world by our loyal clientele including many elite private and government organizations. We can help with prototype design for OEMs and have a supply capability of 200 pcs per month.

NAICS CODES & CLASSIFICATIONS

335910 Lithium Battery Manufacturing
SIC

3691 Storage Batteries

3692 Primary Batteries, Dry and Wet

423830 Industrial Machinery and Equipment Wholesalers
SIC

5084 Industrial Machinery and Equipment

5085 Industrial Supplies

BUSINESS INFORMATION

Specialized Power Systems
Sales, Sales Engineering and Design
sales@specializedpower.net
855-543-3704

PAST PERFORMANCE

Customer: Regional District of Mount Waddington

Our Role: Direct Supplier to Canadian Government Entity

Synopsis: Designed and Supplied 51.2 Volt LiFePO4 Lithium batteries for a government entity in Vancouver, Canada



Customer: Pac Sun Systems (for Leucadia Water District)

Our Role: Supplier / Subcontractor

Synopsis: Specified, manufactured and supplied two Perkins (T4) diesel generator sets for a municipal waste water pumping facility in a coveted and critical beach region of Southern California.



Customer: SpaceX

Our Role: Direct Supplier to SpaceX

Synopsis: Supplied Space X with two 102.4 Volt LiFePO4 Lithium batteries for a classified terrestrial application.

