



GILLETTE GENERATORS

LIQUID COOLED NAT. GAS ENGINE GENERATOR SET

60 HZ MODEL

SP-2000P

Model	STANDBY 120°C RISE	
	HZ	N.G.
SP-2000P-60 HERTZ	60	200



All generator sets are USA prototype built and thoroughly tested. Production models are USA factory built and 100% load tested.



UL2200, UL1446, UL508, UL142, UL498



NFPA 110, 99, 70, 37

All generator sets meet NFPA-110 Level 1, when equipped with the necessary accessories and installed per NFPA standards.



NEC 700, 701, 702, 708



NEMA ICS10, MG1, ICS6, AB1



ANSI C62.41, 27, 59, 32, 480, 40Q, 81U, 360-05

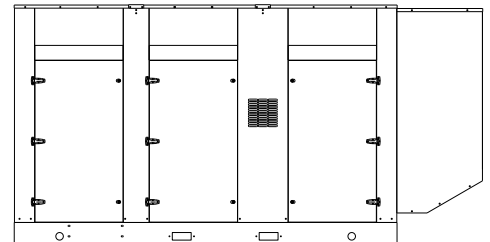


ASCE 7-22

All generator sets meet 200 MPH rating.



EPA 40CFR Part 60, 1048, 1054, 1065, 1068



“LEVEL 2” HOUSED GEN-SET

Full aluminum weather protection and superior sound attenuation for specific low noise applications. Critical grade muffler is standard.

GENERATOR RATINGS					NATURAL GAS FUEL	
GENERATOR MODEL	VOLTAGE		PH	HZ	120°C RISE STANDBY RATING	
	L-N	L-L			KW/KVA	AMP
SP-2000P-3-2	120	208	3	60	200/250	694
SP-2000P-3-3	120	240	3	60	200/250	602
SP-2000P-3-4	277	480	3	60	200/250	301
SP-2000P-3-16	346	600	3	60	200/250	241

RATINGS: All three phase gen-sets are 12 lead windings, rated at .8 power factor. 120°C “STANDBY RATINGS” are strictly for gen-sets that are used for back-up emergency power to a failed normal utility power source. This standby rating allows varying loads, with no overload capability, for the entire duration of utility power outage. All gen-set power ratings are based on temperature rise measured by resistance method as defined by MIL-STD 705C and IEEE STD 115, METHOD 6.4.4. All generators have class H (180°C) insulation system on both rotor and stator windings. All factory tests and KW/KVA charts shown above are based on 120°C (standby) R/R winding temperature, within a maximum 40°C ambient condition. Generators operated at standby power ratings must not exceed the temperature rise limitation for class H insulation system, as specified in NEMA MG1-22.40. Specifications & ratings are subject to change without prior notice.

APPLICATION AND ENGINEERING DATA FOR MODEL SP-2000P-60 HZ

GENERATOR SPECIFICATIONS

Manufacturer..... Stamford Electric Generators
Model & Type..... **UCID274J-311, 4 Pole, 12 Lead, Three Phase**
..... UCI274H-17, 4 Pole, 6 Lead, 600V, Three Phase
Exciter..... Brushless, shunt excited
Voltage Regulator..... Solid State, HZ/Volts
Voltage Regulation..... ½%, No load to full load
Frequency..... Field convertible, 60 HZ to 50 HZ
Frequency Regulation..... ½% (½ cycle, no load to full load)
Unbalanced Load Capability..... 100% of standby amps
Total Stator and Load Insulation..... Class H, 180°C
Temperature Rise..... 120°C R/R, standby rating @ 40°C amb.
3 Ø Motor Starting @ 30% Voltage Dip (208-240V) .. 4100 kVA
3 Ø Motor Starting @ 30% Voltage Dip (480V)..... 520 kVA
3 Ø Motor Starting @ 30% Voltage Dip (600V)..... 850 kVA
Bearing..... 1, Pre-lubed and sealed
Coupling..... Direct flexible disc
Total Harmonic Distortion..... Max 3 | % (MIL-STD705B)
Telephone Interference Factor..... Max 50 (NEMA MG1-22)
Deviation Factor..... Max 5% (MIL-STD 405B)
Ltd. Warranty Period..... 24 Months from date of start-up or
..... 1000 hours use, first to occur.

GENERATOR FEATURES

- World Renown Stamford Electric Generator having UL-1446 certification on full amortisseur windings.
- Full generator protection with **Deep Sea 7420** controller, having UL-508 certification.
- Automatic voltage regulator with over-excitation, under-frequency compensation, under-speed protection, and EMI filtering. Entire solid-state board is encapsulated for moisture protection.
- Generator power ratings are based on temperature rise, measured by resistance method, as defined in MIL-STD 705C and IEEE STD 115, Method 6.4.4.
- Power ratings will not exceed temperature rise limitation for class H insulation as per NEMA MG1-22.40.
- Insulation resistance to ground, exceeds 1.5 meg-ohm.
- Stator receives 2000 V. hi-potential test on main windings, and rotor windings receive a 1500 V. hi-potential test, as per MIL-STD 705B.
- Complete engine-generator torsional acceptance, confirmed during initial prototype testing.
- Full load testing on all engine-generator sets, before shipping.
- Self ventilating and drip-proof & revolving field design

ENGINE SPECIFICATIONS AND APPLICATIONS DATA

ENGINE

Manufacturer..... Power Solutions Inc. (PSI)
Model and Type..... Heavy Duty 8.8LTCAC HO, 4 cycle
Aspiration..... Turbocharged & Charge Air Cooled
Cylinder Arrangement..... 8 Cylinders, V-8
Displacement Cu. In. (Liters)..... 536.4 (8.8)
Bore & Stroke In. (Cm.)..... 4.4 x 4.5 (11.05 x 11.43)
Compression Ratio..... 8.5:1
Main Bearings & Style..... 7, Precision Half-Shell
Cylinder Head..... Cast Iron
Pistons..... Cast Aluminum
Crankshaft..... Forged Steel
Exhaust Valve..... Inconel, A193
Governor..... Electronic
Frequency Reg. (no load-full load)..... Isochronous
Frequency Reg. (steady state)..... ± 1/4%
Air Cleaner..... Dry, Replaceable Cartridge
Engine Speed..... 1800
Piston Speed, ft/min (m/s)..... 1350 (6.9)
Max Power, bhp (kw) Standby/NG..... 315.8 (235.5)
Ltd. Warranty Period..... 12 Months or 2000 hrs., first to occur

FUEL SYSTEM

Type..... NAT. GAS
Fuel Pressure (kpa), in. H₂O*..... (1.70-2.70), 7"-11"
Secondary Fuel Regulator..... NG
Auto Fuel Lock-Off Solenoid..... Standard on all sets
Fuel Supply Inlet Line..... 2" NPTF

FUEL CONSUMPTION

NAT. GAS: FT ³ /HR (M ³ /HR)	STANDBY
100% LOAD	2431 (68.9)
75% LOAD	1945 (55.1)
50% LOAD	730 (20.7)
NG = 1000 BTU X FT ³ /HR = Total BTU/HR	

OIL SYSTEM

Type..... Full Pressure
Oil Pan Capacity qt. (L)..... 8.5 (8.0)
Oil Pan Cap. W/ filter qt. (L)..... 9.0 (8.5)
Oil Filter..... 1, Replaceable Spin-On

ELECTRICAL SYSTEM

Ignition System..... Electronic
Eng. Alternator and Starter:
Ground..... Negative
Volts, DC..... 12
Recommended Battery to -18°C (0°F): ... 12 VDC, Size BCI# 27,
Max Dimensions: 12" lg X 6 3/4" wi X 9" hi, with standard
round posts. Min output at 700 CCA. Battery tray (max. dim. at
12"lg x 7"wi), hold down straps, battery cables, and battery
charger, is furnished. Installation of (1) starting battery is
required, with possible higher AMP/HR rating, as described
above, if normal environment averages -13°F (-25°C) or cooler.

APPLICATION AND ENGINEERING DATA FOR MODEL SP-2000P-60 HZ

COOLING SYSTEM

Type of System.....Pressurized, closed recovery
Coolant Pump Pre-lubricated, self-sealing
Cooling Fan Type (no. of blades).....Pusher (6)
Fan Diameter inches (mm)27.6" (701)
Ambient Capacity of Radiator °F (°C).....104 (40)
Engine Jacket Coolant Capacity Gal (L)5 (19)
Radiator Coolant Capacity Gal. (L).....14.5 (55)
Maximum Restriction of Cooling Air Intake
and discharge side of radiator in. H₂O (kpa) 0.5 (.125)
Water Pump Capacity gpm (L/min) 33 (125)
Heat Reject Coolant: Btu/min (kw).....9750 (171.4)
Heat Reject CAC: Btu/min (kw).....1379.5 (24.3)
Low Radiator Coolant Level Shutdown.....Standard
Note: Coolant temp. shut-down switch setting at 230°F (110°C) with 50/50
(water/antifreeze) mix.

AIR REQUIREMENTS

Combustion Air, cfm (m³/min)1272.5 (36)
Radiator Air Flow cfm (m³/min).....18,533 (525)
Heat Rejected to Ambient:
Engine: kw (btu/min).....23.3 (1324.8)

EXHAUST SYSTEM

Exhaust Outlet Size5"
Max. Back Pressure, in. hg (KPA)13.0 (3.2)
Exhaust Flow, at rated kw: cfm (m³/min).....1272.5 (36)
Exhaust Temp., at rated kw: °F (°C)1101 (594)
Engines are EPA certified for Natural Gas.

SOUND LEVELS MEASURED IN dB(A)

	Open Set	Level 2 Encl.
Level 2, Critical Silencer	88	78
Level 3, Hospital Silencer.....		75

Note: Open sets (no enclosure) has (2) optional silencer system choices due to unknown job-site applications. Level 2 enclosure has installed critical silencer with upgrade to hospital silencer. Sound tests are averaged from several test points and taken at 23 ft. (7 m) from source of noise at normal operation.

DERATE GENERATOR FOR ALTITUDE

3% per 1000 ft.(305m) above 3000 ft. (914m) from sea level

DERATE GENERATOR FOR TEMPERATURE

2% per 10°F(5.6°C) above 104°F (40°C)

DIMENSIONS AND WEIGHTS

	Open Set	Level 2 Enclosure
Length in (cm)	132 (335)	174 (442)
Width in (cm).....	52 (132)	52 (132)
Height in (cm).....	58.3 (148)	80 (203)
Net Weight lbs (kg)	4530 (2055)	7047 (3196)
Ship Weight lbs (kg).....	5030 (2282)	7392 (3353)

DEEP SEA 7420 MKII DIGITAL MICROPROCESSOR CONTROLLER



Deep Sea 7420 MKII

The "7420" controller is an auto start mains (utility) failure module for single gen-set applications. This controller includes a backlit LCD display which continuously displays the status of the engine and generator at all times.

The "7420" controller will also monitor speed, frequency, voltage, current, oil pressure, coolant temp., and fuel levels. These modules have been designed to display warning and shut down status. It also includes: (11) configurable inputs • (8) configurable outputs • voltage monitoring • mains (utility) failure detection.

• (250) event logs • configurable timers • automatic shutdown or warning during fault detection • remote start (on load) • engine preheat • advanced metering capability • hour meter • text LCD displays • protected solid state outputs • test buttons for: stop/reset • manual mode • auto mode • lamp test • start button • power monitoring (kWh, kVAr, kVAh, kVArh)

This controller includes expansion features including RS232, RS484 (using MODBUS-RTU/TCP), direct USB connection with PC, expansion optioned using DSENet for remote annunciation and remote relay interfacing for a distance of up to 3300FT. The controller software is freely downloadable from the internet and allows monitoring with direct USB cable, LAN, or by internet via the built in web interface.

STANDARD FEATURES FOR MODEL SP-2000P-60 HZ

STANDARD FEATURES

CONTROL PANEL:

Deep Sea 7420 MKII digital microprocessor with logic allows programming in the field. Controller has:

- STOP-MANUAL-AUTO modes and automatic engine shutdowns, signaled by full text LCD indicators:
- Low oil pressure
- High engine temp
- Low Radiator Level
- Three auxiliary alarms
- Battery fail alarm
- Engine fail to start
- Engine over speed
- Engine under speed
- Over & under voltage

Also included is tamper-proof engine hour meter

ENGINE:

Full flow oil filter • Air filter • Oil pump • Solenoid type starter motor • Hi-temp radiator • Jacket water pump

- Thermostat • Pusher fan and guard • Exhaust manifold
- 12 VDC battery charging alternator • Flexible exhaust connector • "Isochronous" duty, electronic governor • Secondary dry fuel regulator • Dry fuel lock-off solenoid • Vibration isolators • Closed coolant recovery system with 50/50 water to anti-freeze mixture

Design & specifications subject to change without prior notice. Dimensions shown are approximate. Contact Gillette for certified drawings. DO NOT USE DIMENSIONS FOR INSTALLATION PURPOSES.

AC GENERATOR SYSTEM:

AC generator • Shunt excited • Brushless design • Circuit Breaker installed and wired to gen-set • Direct connection to engine with flex disc • Class H, 180°C insulation • Self ventilated • Drip proof construction • UL Certified

VOLTAGE REGULATOR:

½% Voltage regulation • EMI filter • Under-speed protection • Over-excitation protection • total encapsulation

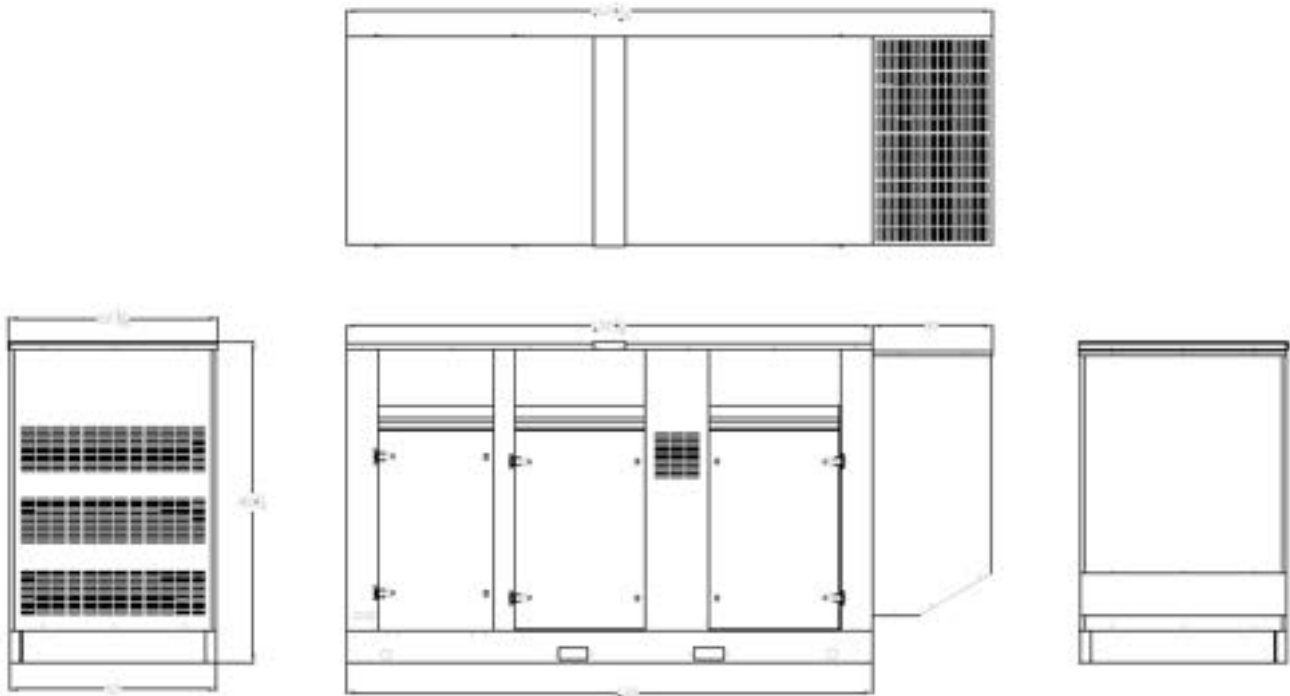
DC ELECTRICAL SYSTEM:

Battery tray • Battery cables • Battery hold down straps

- 2-stage battery float charger with maintaining & recharging automatic charge stages

WEATHER/SOUND PROOF ALUMINUM HOUSING CORROSION RESISTANT PROTECTION CONSISTING OF:

- 9 Heated and Agitated Wash Stages
- Zinc Phosphate Etching-coating Stage
- Final Baked On Enamel Powder Coat
- 18/8 Stainless Steel Hardware





**POWER SOLUTIONS
INTERNATIONAL**

8.8L TCAC HO

EMERGENCY "STANDBY"



[Stoic.]
36400010 Rev: 1

General Engine Data ⁹									
Type	V-type 4 cycle				Flywheel Housing		SAE 3		
Number of cylinders	8				Flywheel		SAE 10 & 11-1/2		
Aspiration	Turbo Charge Air Cooled				Dry Weight (Fan to Flywheel)		lb	kg	1215.4 552.5
Firing Order	1-8-7-2-6-5-4-3				Wet Weight (Fan to Flywheel)		lb	kg	1232.4 560.2
Rotation Viewed from Flywheel	Counter Clockwise				CG From Flywheel Housing Rear Face		in	mm	10.9 276.0
Bore	in	mm	4.4	110.5	CG Above Crank Centerline		in	mm	7.7 195.0
Stroke	in	mm	4.5	114.3	Max Bending Moment at Rear of Block		lb/ft	N-m	3540.0 4800.0
Displacement	in ³	L	536.4	8.8	Oil Specification		SAE 5W-30 Low Ash Gas engine oil (.25-.5% by wt), API CD/CF or higher		
Compression Ratio	8.5:1								
Exhaust Manifold Type	Water Cooled Manifold				Engine Oil Capacity ⁸		Min	qts	L 8.0 7.5
Turbo Exhaust Outlet Pipe Size	in	mm	2.6	66.0			Max	qts	L 11.0 10.4
Catalyst Inlet Size	in	mm	3.5	89.0	ECU Oil Pressure Warning ⁶		psi	kPa	15.0 103.4
Catalyst Dp	in-H ₂ O	kPa	20.5	5.1	ECU Oil Pressure Shut Down ⁶		psi	kPa	8.0 55.2
Maximum Allowable Exhaust Back Pressure	in-Hg	kPa	3.0	10.2	Oil Pressure at 1000 RPM (idle)		Min	psi	kPa 13.1 90.0
Maximum Fuel System Pressure	psi	kPag	1.0	6.9			Max	psi	kPa 58.0 400.0
Maximum Operating Pressure to EPR	in-H ₂ O	kPa	10.9	2.7	Maximum Allowable Oil Temperature		°F	°C	249.8 121.0
Minimum Operating Pressure to EPR	in-H ₂ O	kPa	6.8	1.7	Coolant Capacity (Engine only)		gal	L	5.0 19.0
Minimum Gas Supply Pipe Size ⁹	1-1/4" NPT				Coolant Capacity (Radiator only)		gal	L	14.5 55.0
Maximum Pressure Drop Across CAC	psi	kPa	1.5	10.5	Radiator Weight (Dry)		lb	kg	217.4 98.8
Maximum Allowable Intake Restriction	Clean Air Filter	in-H ₂ O	kPa	6.0 1.5	Thermostat Operating Temperature Range ⁹	Cracking	°F	°C	185.0 85.0
	Dirty Air Filter	in-H ₂ O	kPa	13.0 3.2		Full Open	°F	°C	213.8 101.0
Spark Plug Part Number	ITR7J9D				ECU Coolant Temperature Warning		°F	°C	219.2 104.0
Standard Spark Plug Gap ¹⁰	in	mm	0.035	0.9	ECU Coolant Temperature Shutdown		°F	°C	230.0 110.0
Spark Plug Coil - Primary Resistance	Ohms		0.59Ω ± 10%		Maximum Radiator Cooling Air Temp		°F	°C	230.0 110.0
Battery Voltage	Volts		12		Maximum External Coolant Friction Head		psi	kPa	TBD TBD
Starter Motor Power	HP	kW	2.7	2.0	Max CAC Temp Rise Above Ambient		°F	°C	16.4 9.1
Performance Data 60Hz ^{3,9}					Performance Data 50Hz ^{3,9}				
Nominal Engine Speed	RPM		1800		Nominal Engine Speed	RPM		1500	
Mean Piston Speed	ft/min	m/s	1350	6.9	Mean Piston Speed	ft/min	m/s	1125	5.7
RPM Range (Min-Max) ISO 8528-5 G1	RPM		1778 - 1823		RPM Range (Min-Max) ISO 8528-5 G1	RPM		1481 - 1519	
Charging Alternator Voltage	Volts		14.3		Charging Alternator Voltage	Volts		14.3	
Charging Alternator Current	Amps		85		Charging Alternator Current	Amps		85	
Water Pump Speed	RPM		3975		Water Pump Speed	RPM		3312	
Total Engine Coolant Flow	gal/min	L/min	81	307	Total Engine Coolant Flow	gal/min	L/min	67	255
Cooling Fan Power ¹¹	HP	kW	34.9	26	Cooling Fan Power ¹¹	HP	kW	10.7	8
Cooling Fan Speed	RPM		2430		Cooling Fan Speed	RPM		2030	
Cooling Fan Air Flow ¹¹	SCFM	m ³ /min	18533	525	Cooling Fan Air Flow ¹¹	SCFM	m ³ /min	14120	400
Standby			NG 60Hz HO		NG 50Hz HO				
Power Rating ^{1,2,3,4} Per ISO 3046	HP	kWm	315.8	235.5	252.8	188.5			
Fuel Consumption ^{3,4,7}	lb/hr	kg/hr	107.9	49.0	85.2	38.7			
BSFC	lb/(hp-hr)	g/(kW-hr)	0.342	209.8	0.337	206.0			
Turbine Outlet Temperature	°F	°C	1100.5	593.6	1010.1	543.4			
Exhaust Mass Flow (entire engine)	lb/hr	kg/hr	1953.6	888.0	1525.3	693.3			
Exhaust Flow at Turbine Outlet Conditions	ACFM	m ³ /min	1272.5	36.0	944.8	26.8			
Air Induction System ⁹									
Combustion Air required (entire engine)	lb/hr	kg/hr	1828.1	831.0	1440.1	654.6			
	ACFM	m ³ /min	378.4	10.7	298.1	8.4			
Thermal Balance ⁵									
Total Fuel	BTU/min	kW	35855.9	630.5	28315.1	497.9			
Mechanical Power	BTU/min	kW	13392.7	235.5	10719.8	188.5			
Heat Rejected to Cooling Water at Rated Load	BTU/min	kW	9750.0	171.4	7771.0	136.6			
Heat Rejection to Oil at Rated Load	BTU/min	kW	656.5	11.5	671.0	11.8			
Heat Rejection to CAC at Rated Power	BTU/min	kW	1379.5	24.3	1019.0	17.9			
Heat Rejection to Exhaust (LHV to 150C)	BTU/min	kW	10008.9	176.0	7108.6	125.0			
Engine Radiated Heat	BTU/min	kW	1324.8	23.3	1696.6	29.8			

¹ Standby and overload ratings based on ISO 3046 gross flywheel power.

² Technical data based on ISO 3046-1 standards of 77°F(25°C), absolute pressure 14.5Psi(100kPa) and 30% relative humidity.

³ Production tolerances in engines and installed components can account for power variations of ± 5%. Altitude, temperature and excessive and intake restrictions should be applied to power calculations.

⁴ All fuel and thermal calculations unless otherwise noted are done at ISO 3046 rated load using LHV for NG of 48.17 MJ/kg.

⁵ All values in the following section are provided for informational purpose only and are non-binding.

⁶ >1400RPM.

⁷ See PSI Energy Technical Spec. 56300019 - Fuel Standard.

⁸ Standard Sump Capacity.
⁹ ± 2 degrees Celsius.

¹⁰ ± 0.002" or 0.05mm.

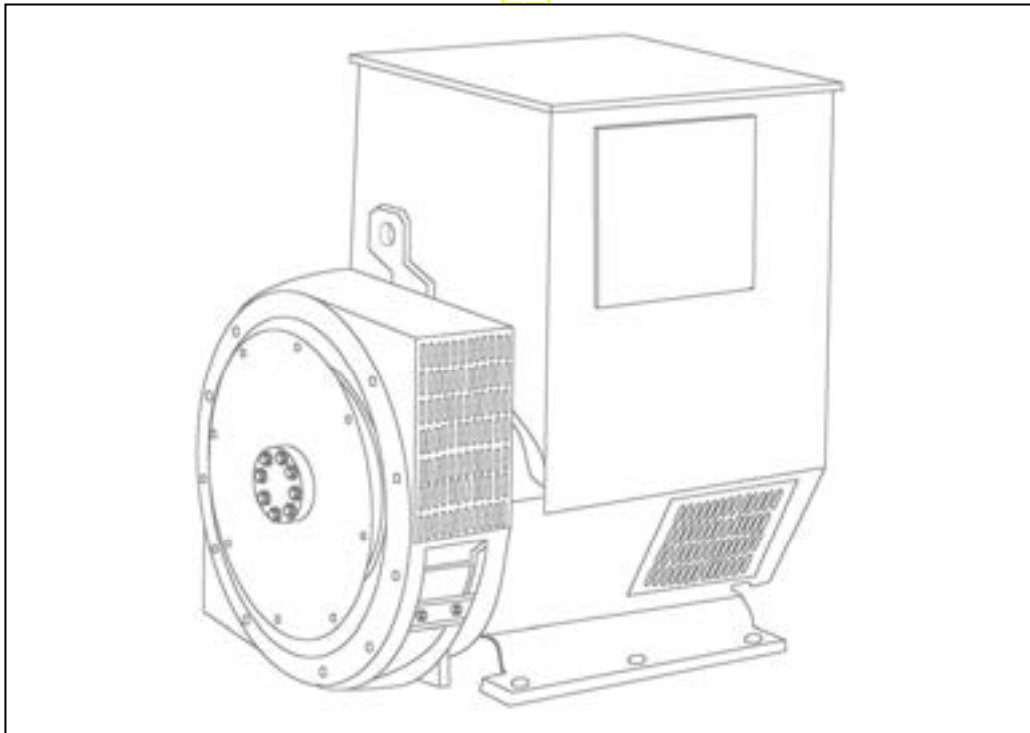
¹¹ At 2.7" H₂O package restriction and 125F @ radiator

exhaust

STAMFORD®

UCDI274J - Winding 311

Technical Data Sheet



SPECIFICATIONS & OPTIONS

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 - STANDARD

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

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 8 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.

APPROVED DOCUMENT

WINDING 311

CONTROL SYSTEM SER.3	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 7)		

CONTROL SYSTEM SER.4	SELF EXCITED		
A.V.R.	SX460	AS440	
VOLTAGE REGULATION	± 1.0 %	± 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	0.0126 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)		
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)		

	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF<2%				TIF<50			
COOLING AIR	0.58 m³/sec 1230 cfm				0.69 m³/sec 1463 cfm			
VOLTAGE SERIES STAR	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
VOLTAGE PARALLEL STAR	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
VOLTAGE SERIES DELTA	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138
KVA BASE RATING FOR REACTANCE VALUES	230	230	230	N/A	269	281	294	300
Xd DIR. AXIS SYNCHRONOUS	1.939	1.750	1.626	-	2.651	2.475	2.370	2.221
X'd DIR. AXIS TRANSIENT	0.103	0.093	0.086	-	0.164	0.153	0.147	0.137
X''d DIR. AXIS SUBTRANSIENT	0.070	0.064	0.059	-	0.096	0.090	0.086	0.080
Xq QUAD. AXIS REACTANCE	0.886	0.800	0.743	-	1.206	1.126	1.078	1.010
X''q QUAD. AXIS SUBTRANSIENT	0.163	0.147	0.137	-	0.138	0.129	0.123	0.116
X _L LEAKAGE REACTANCE	0.062	0.056	0.052	-	0.081	0.076	0.072	0.068
X ₂ NEGATIVE SEQUENCE	0.117	0.105	0.098	-	0.117	0.109	0.105	0.098
X ₀ ZERO SEQUENCE	0.044	0.040	0.037	-	0.048	0.045	0.043	0.040

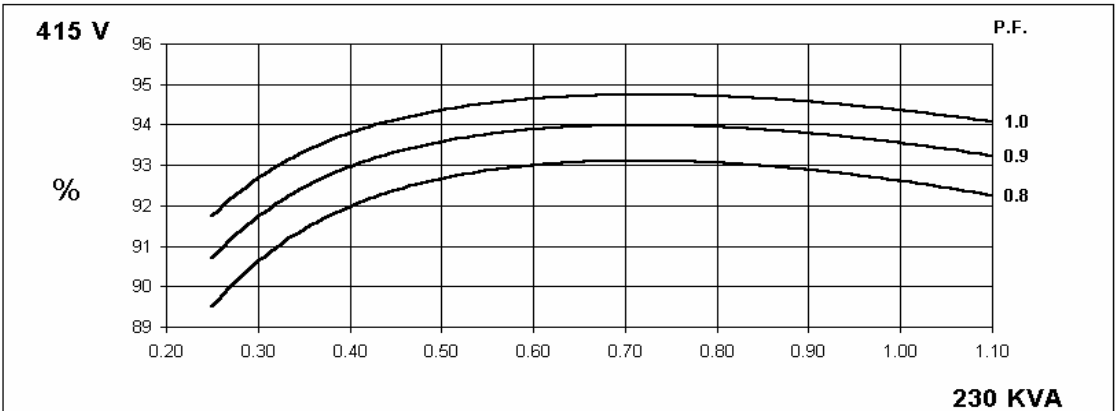
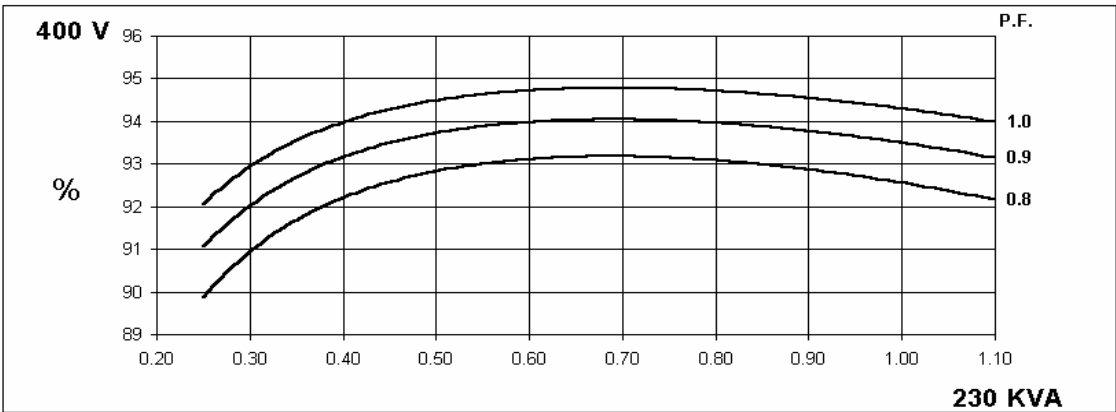
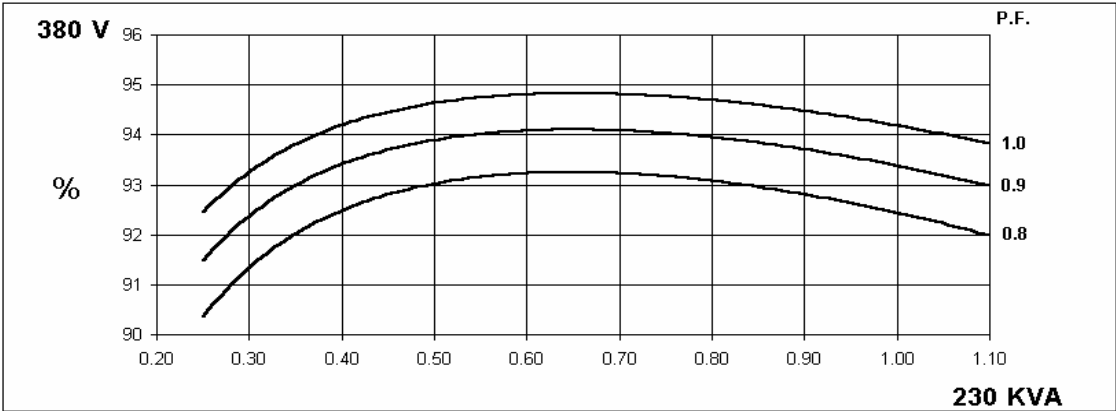
REACTANCES ARE SATURATED		VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED	
T'd TRANSIENT TIME CONST.		0.045 s	
T''d SUB-TRANSTIME CONST.		0.015 s	
T'do O.C. FIELD TIME CONST.		1.27 s	
Ta ARMATURE TIME CONST.		0.03 s	
SHORT CIRCUIT RATIO		1/Xd	

**50
Hz**

UCDI274J
Winding 311

STAMFORD

THREE PHASE EFFICIENCY CURVES



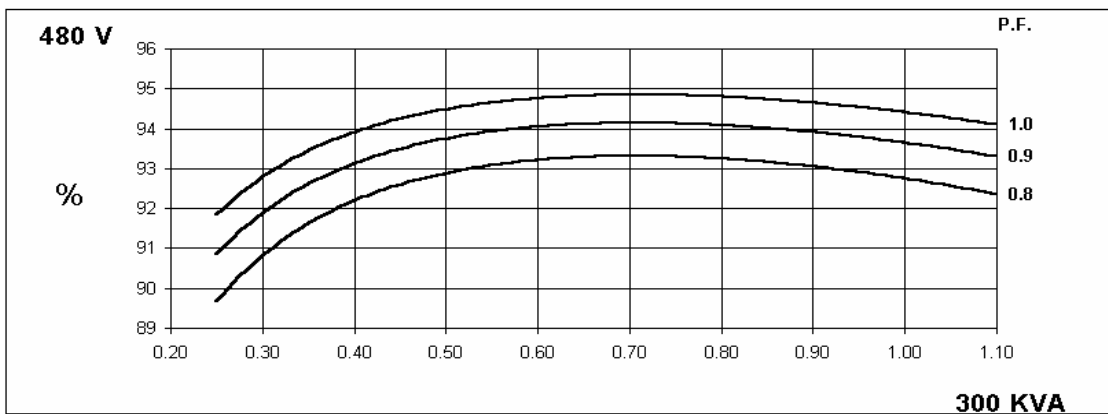
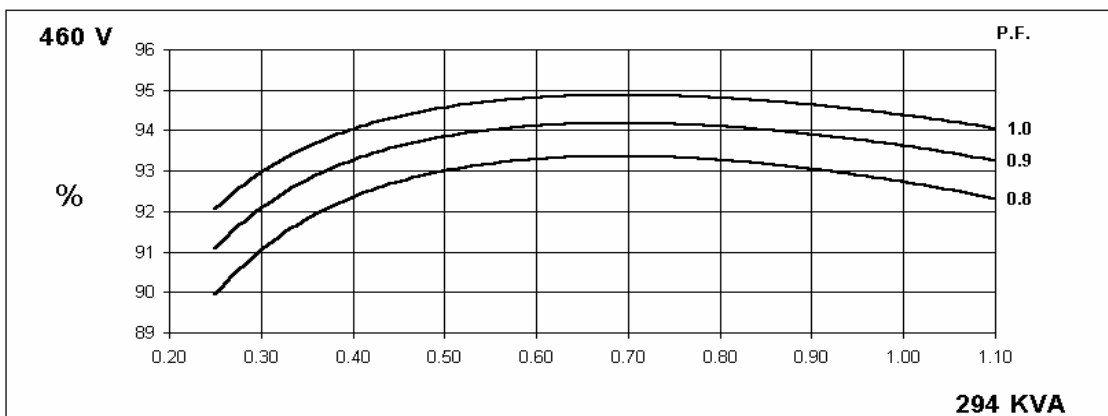
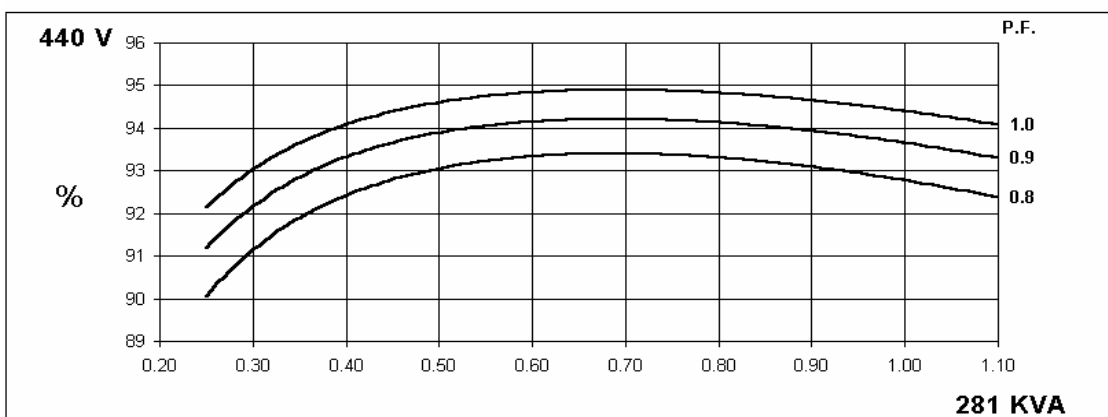
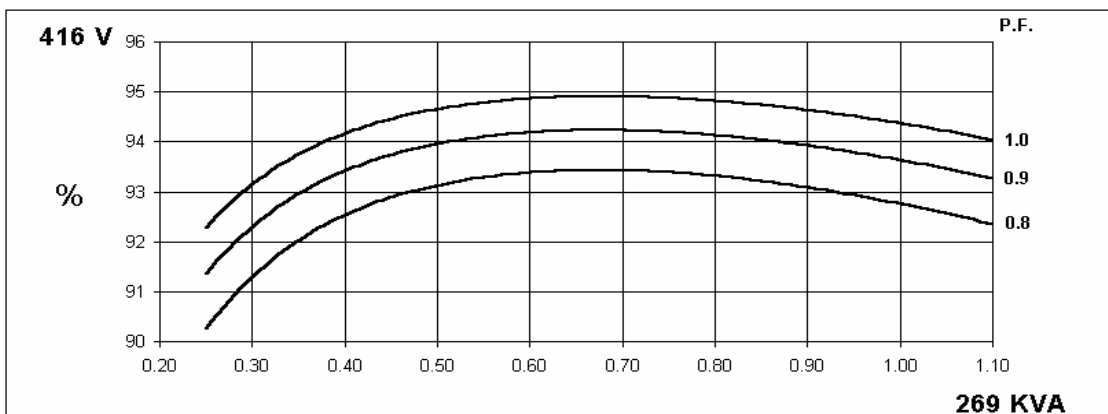
**60
Hz**

UCDI274J

Winding 311

STAMFORD

THREE PHASE EFFICIENCY CURVES



UCDI274J
Winding 311

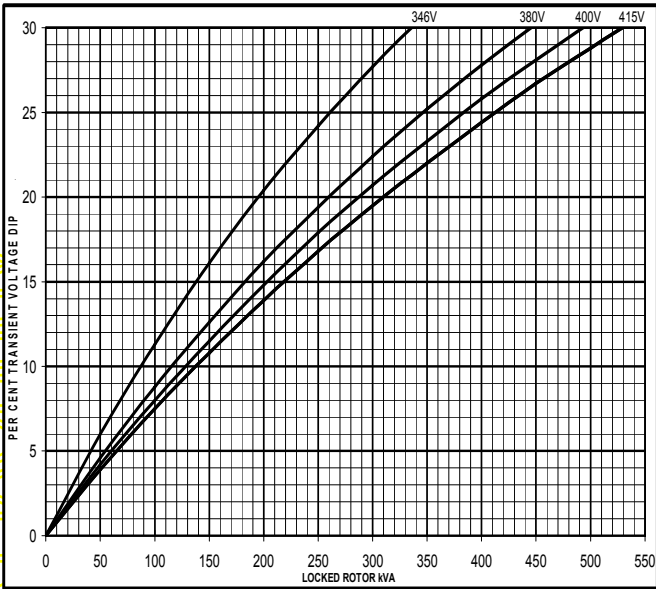
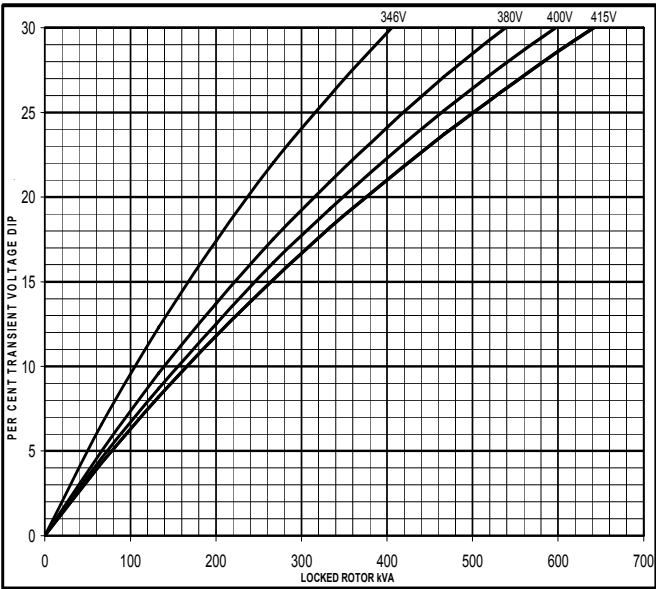
STAMFORD

Locked Rotor Motor Starting Curve

50
Hz

MX

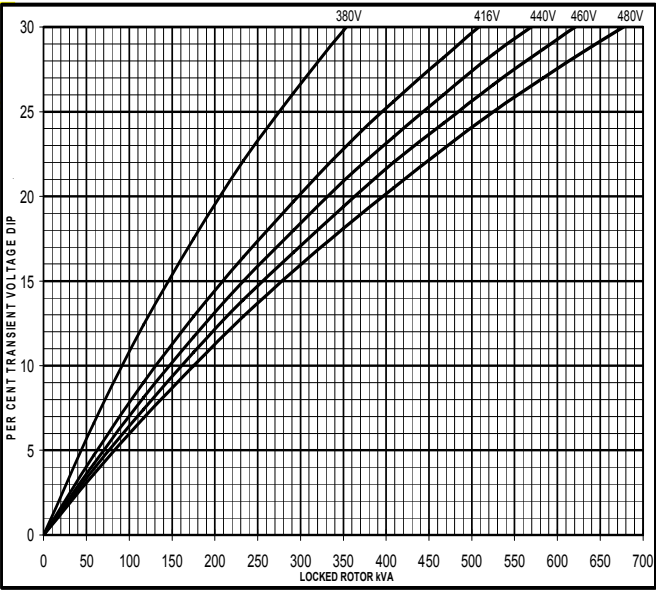
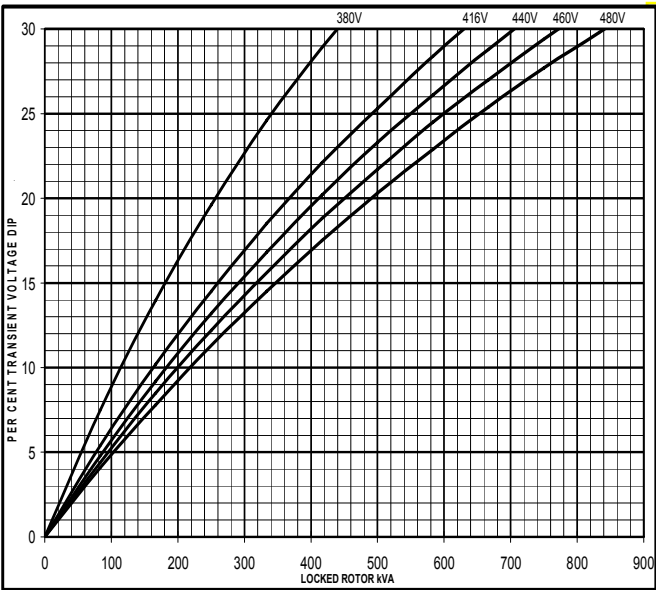
SX



60
Hz

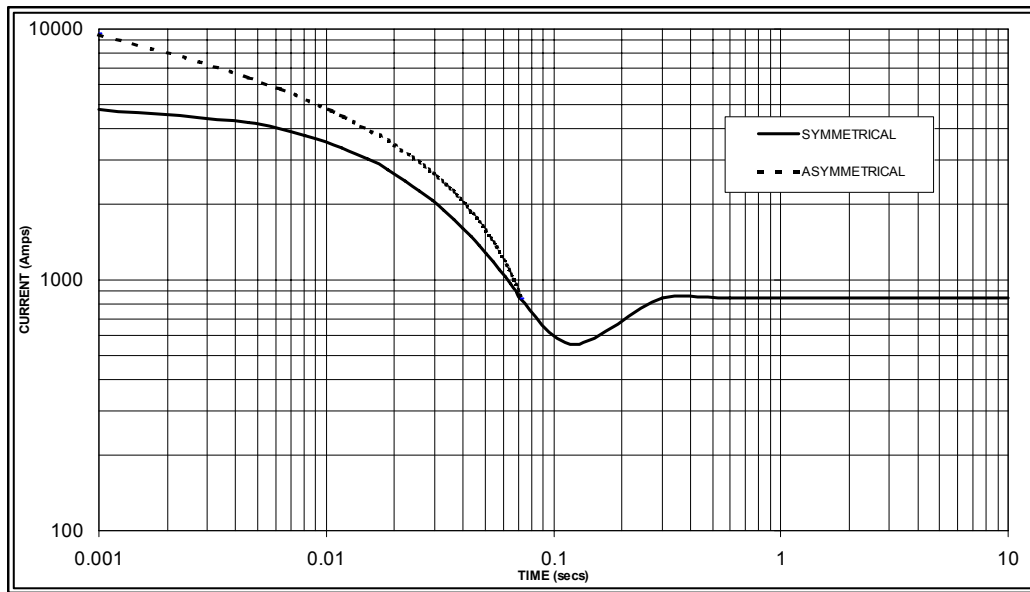
MX

SX



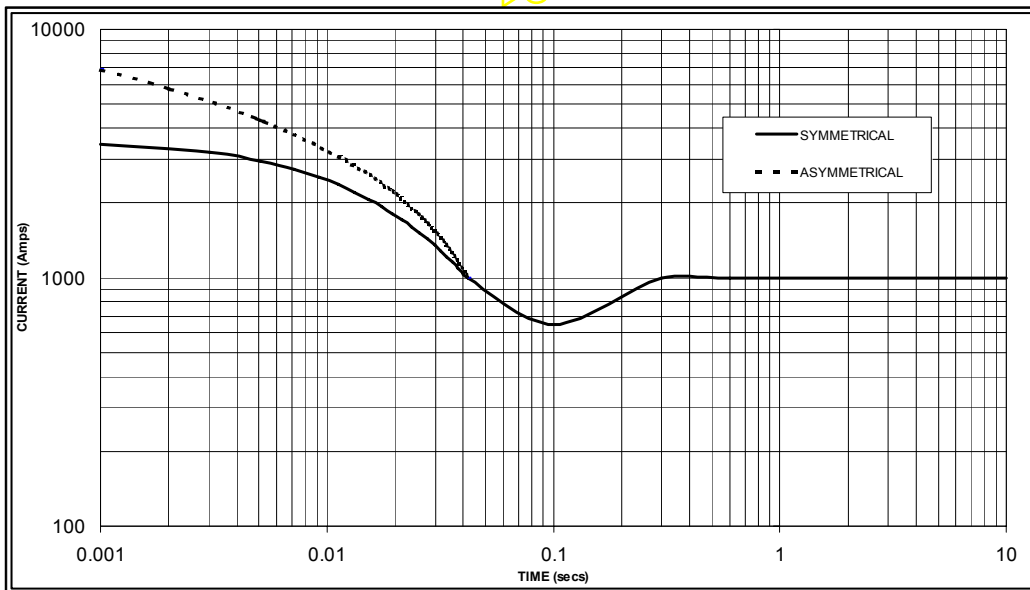
**Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.**

**50
Hz**



Sustained Short Circuit = 850 Amps

**60
Hz**



Sustained Short Circuit = 1,000 Amps

Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380v	X 1.00	416v	X 1.00
400v	X 1.05	440v	X 1.07
415v	X 1.10	460v	X 1.12
		480v	X 1.16

The sustained current value is constant irrespective of voltage level

Note 2

The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to 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

Note 3

Curves are drawn for Star (Wye) connected machines. For other connection the following multipliers should be applied to current values as shown :

Parallel Star = Curve current value X 2

Series Delta = Curve current value X 1.732

UCDI274J

STAMFORD

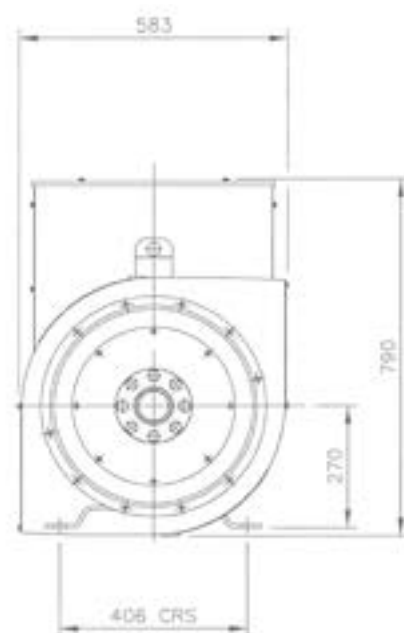
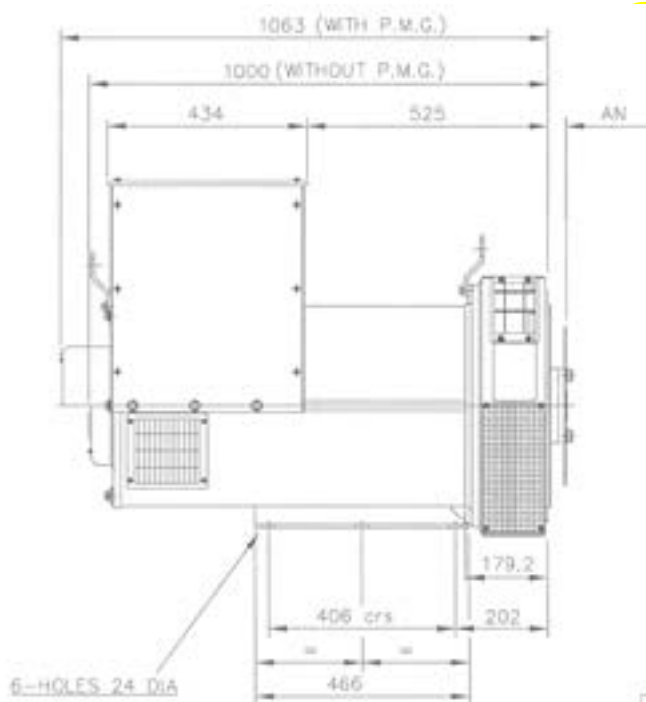
Winding 311 / 0.8 Power Factor

RATINGS

Class - Temp Rise		Cont. F - 105/40°C				Cont. H - 125/40°C				Standby - 150/40°C				Standby - 163/27°C			
50 Hz	Series Star (V)	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	Parallel Star (V)	190	200	208	220	190	200	208	220	190	200	208	220	190	200	208	220
	Series Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
kVA		210	210	210	N/A	230	230	230	N/A	250	250	250	N/A	260	260	260	N/A
kW		168	168	168	N/A	184	184	184	N/A	200	200	200	N/A	208	208	208	N/A
Efficiency (%)		92.8	92.8	92.9	N/A	92.4	92.6	92.6	N/A	92.1	92.2	92.3	N/A	91.8	92.0	92.1	N/A
kW Input		181.0	181.0	180.8	N/A	199.1	198.7	198.7	N/A	217.2	216.9	216.7	N/A	226.6	226.1	225.8	N/A

60 Hz	Series Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	Parallel Star (V)	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
	Series Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	250	264	275	275	269	281	294	300	288	300	313	319	294	306	319	325
	kW	200.0	211.2	220.0	220.0	215.2	224.8	235.2	240.0	230.4	240.0	250.4	255.2	235.2	244.8	255.2	260.0
	Efficiency (%)	93.0	93.0	93.0	93.0	92.8	92.8	92.7	92.8	92.5	92.5	92.5	92.5	92.4	92.4	92.4	92.4
	kW Input	215.1	227.1	236.6	236.6	231.9	242.2	253.7	258.6	249.1	259.5	270.7	275.9	254.5	264.9	276.2	281.4

DIMENSIONS



COUPLING DISC	AN
SAE 11.5	39.68
SAE14	25.4



MX341 Technical Specification

- Sensing Input

1

- Power Input

- Power Output

Ω

- Regulation

1

- Thermal Drift

$^{\circ}\text{C}$

2

- Typical Response

- External Voltage Adjustment

3

- Under-Frequency Protection

4

- Unit Power Dissipation

- Analogue Input

5

- Input resistance 1 k Ω

- **Quadrature Droop Input**
 - 10 Ω burden
 - Maximum sensitivity: 0.07 A for 5% droop, zero power factor
 - Maximum input: 0.33 A
- **Over-Voltage Detection**
 - Set point: 75 VDC
 - Time delay: 10 s (fixed)
- **Environmental**
 - Vibration
 - 20 Hz to 100 Hz: 50 mm/sec
 - 100 Hz to 2 kHz: 3.3 g
 - Operating temperature: -40 °C to +70 °C
 - Relative Humidity 0 °C to 70 °C: 95%⁶
 - Storage temperature: -55 °C to +80 °C

¹ With 4% engine governing

² After 10 minutes

³ Applies to Mod status D onwards. Alternator de-rate may apply. Check with factory

⁴ Factory set, semi-sealed, jumper selectable.

⁵ Any device connected to the analogue input must be fully floating (galvanically isolated from ground), with an insulation strength of 500 VAC

⁶ Non condensing.

DSE7410/20

AUTO START & AUTO MAINS FAILURE MODULES

FEATURES

The DSE7410 is an Auto Start Control Module and the **DSE7420** is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

A sophisticated module monitoring an extensive number of engine parameters, the DSE74xx will announce warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LED, remote PC, audible alarm and via SMS text alerts. The module includes RS232, RS485 & Ethernet ports as well as dedicated terminals for system expansion.

The DSE7400 Series modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer a comprehensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry paralleling requirements.

The modules can be easily configured using the DSE Configuration Suite 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 @ +/-7.5 mm,
8 Hz to 500 Hz @ 2 gn

HUMIDITY

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

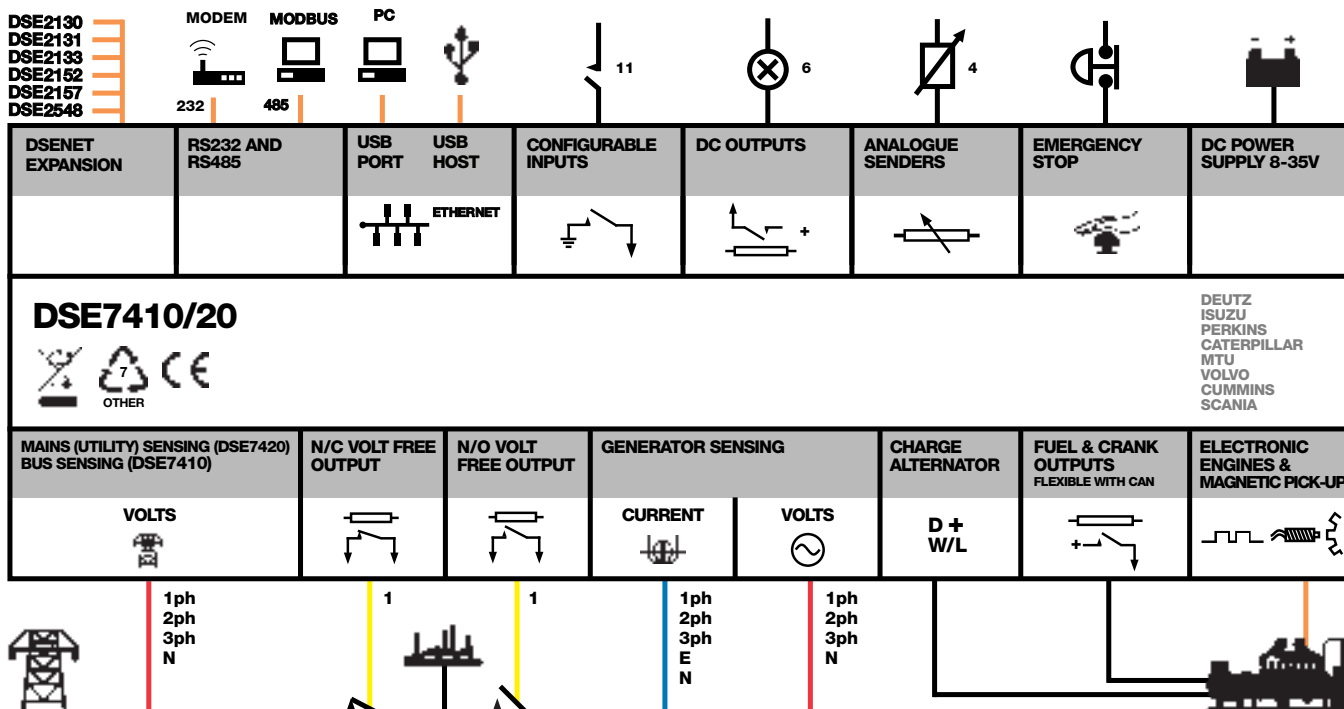
SHOCK

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



DSE7410/20

AUTO START & AUTO MAINS FAILURE MODULES

FEATURES



DSE7420

DSE7410



KEY FEATURES

- Configurable inputs (11)
- Configurable outputs (8)
- Voltage measurement
- Mains (utility) failure detection
- Dedicated load test button
- kW overload alarms
- Comprehensive electrical protection
- RS232, RS485 & Ethernet remote communications
- Modbus RTU/TCP
- PLC functionality
- Multi event exercise timer
- Back-lit LCD 4-line text display
- Multiple display languages
- Automatic start/Manual start
- Audible alarm
- Fixed and flexible LED indicators
- Event log (250)
- Engine protection
- Fault condition notification to a designated PC
- Front panel mounting
- Protected front panel programming
- Configurable alarms and timers
- Configurable start and stop timers

- Five key menu navigation
- Front panel editing with PIN protection
- 3 configurable maintenance alarms
- CAN and magnetic pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control (on compatible CAN engines)
- Manual fuel pump control
- "Protections disabled" feature
- Reverse power protection
- Power monitoring (kW h, kV Ar, kV A h, kV Ar h)
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer (DSE7420)
- Unbalanced load protection
- Independent earth fault trip
- Fully configurable via DSE Configuration Suite PC software
- Configurable display languages
- Remote SCADA monitoring via DSE Configuration Suite PC software

- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- Additional display screens to help with modem diagnostics
- DSENet® expansion
- Integral PLC editor

KEY BENEFITS

- RS232, RS485 & Ethernet can be used at the same time
- DSENet® connection for system expansion
- PLC functionality
- Five step dummy load support
- Five step load shedding support
- High number of inputs and outputs
- Worldwide language support
- Direct USB connection to PC
- Ethernet monitoring
- USB host
- Data logging & trending

RELATED MATERIALS

TITLE

DSE7410 Installation Instructions
DSE7420 Installation Instructions
 DSE74xx Quick Start Guide
 DSE74xx Operator Manual
 DSE74xx PC Configuration Suite Manual

PART NO'S

053-085
 053-088
 057-162
 057-161
 057-160

SPECIFICATION

DC SUPPLY

CONTINUOUS VOLTAGE RATING
 8 V to 35 V Continuous

CRANKING DROPOUTS

Able to survive 0 V for 50 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries

MAXIMUM OPERATING CURRENT

260 mA at 12 V, 130 mA at 24 V

MAXIMUM STANDBY CURRENT

120 mA at 12 V, 65 mA at 24 V

CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

OUTPUTS

OUTPUT A (FUEL)

15 A DC at supply voltage

OUTPUT B (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

GENERATOR

VOLTAGE RANGE

15 V to 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

MAINS (UTILITY) (DSE7420)

VOLTAGE RANGE

15 V to 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

BUS (DSE7410)

VOLTAGE RANGE

15 V to 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

MAGNETIC PICK UP

VOLTAGE RANGE

+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

DIMENSIONS

OVERALL

240 mm x 172 mm x 57 mm
 9.4" x 6.8" x 2.2"

PANEL CUTOUT

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

DEEP SEA ELECTRONICS PLC UK

Highfield House, Hunmanby Industrial Estate, Hunmanby YO14 0PH
TELEPHONE +44 (0) 1723 890099 **FACSIMILE** +44 (0) 1723 893303
EMAIL sales@deepseapl.com **WEBSITE** www.deepseapl.com

DEEP SEA ELECTRONICS INC USA

3230 Williams Avenue, Rockford, IL 61101-2668 USA
TELEPHONE +1 (815) 316 8706 **FACSIMILE** +1 (815) 316 8708
EMAIL sales@deepseausa.com **WEBSITE** www.deepseausa.com

Molded Case Circuit Breakers
Power Defense™ UL Global Series
Part Number: PDG43G0800B2NJNNNNNN



Datasheet creation date: 20/11/2019

PRODUCT VIEW *(Use Mouse to Rotate and Zoom)*

Eaton's Power Defense™ molded case circuit breakers, a globally rated platform designed to help keep your power system safe with latest protection technology. Engineered for the future: IoT and Industry 4.0 features such as built-in communications, advanced energy metering, and algorithms that signal breaker maintenance; zone selective interlock technology that clears faults quickly and locally; ArcFlash reduction options that help protect your people, and not to mention Eaton's best-in-class support and service.

Tech Data for Configured Product

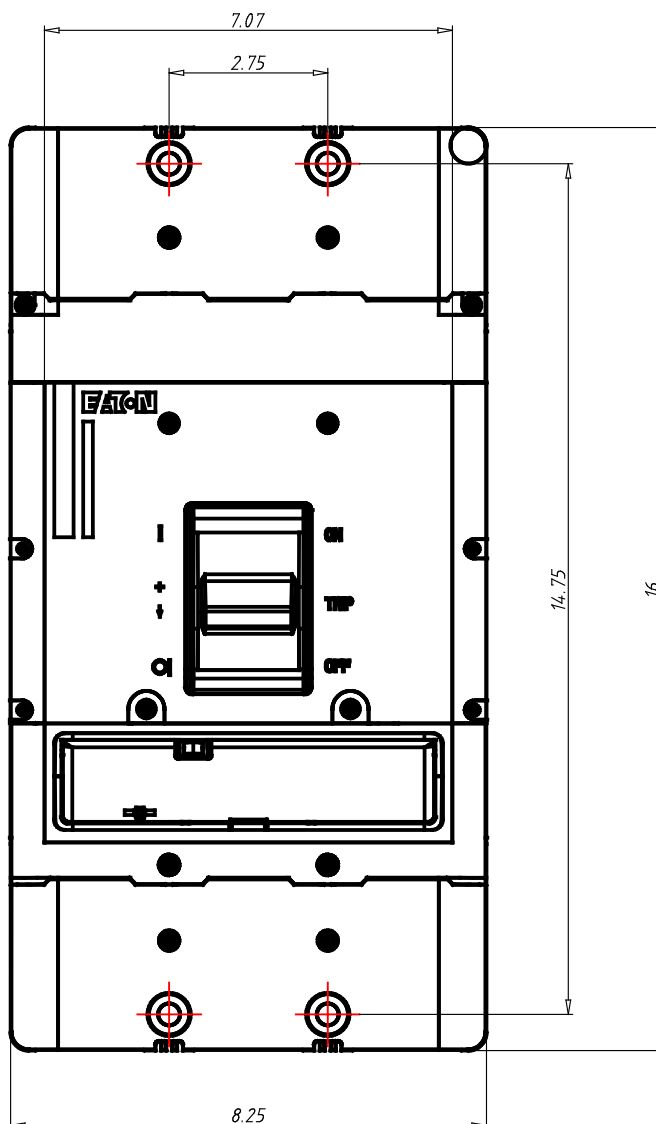
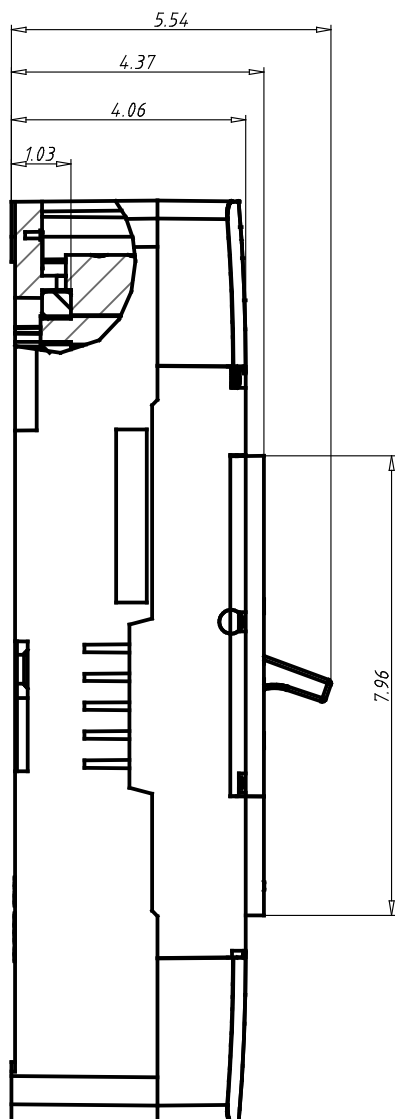
Power Defense Catalog Number	PDG43G0800B2NJNNNNNN
Frame Size	Frame 4
Poles	3 Pole
Voltage	240V AC
Interruption or Breaking Capacity (Icu/Ics)	55kA
Continuous Current Rating (In)	800A
Trip Unit Type	PXR10
Trip Unit Options 1	LSI
Trip Unit Options 2	None
Indicating Accessories	None
Indicating Accessories Terminal	None
Tripping Accessories	None
Tripping Accessory Terminal	None
Tripping Accessory Voltage	None
Line Type Description	Option 1 - Standard Terminal
Line Conductor Options	(3) 3/0 - 400
Line Terminal Type	Aluminum
Load Type Description	Option 1 - Standard Terminal
Load Conductor Options	(3) 3/0 - 400
Load Terminal Type	Aluminum
Special Options - Type of Modification	None
Details	None
Additional Description	None

Molded Case Circuit Breakers
Power Defense™ UL Global Series
Part Number: PDG43G0800B2NJNNNNNN



Datasheet creation date: 20/11/2019

Technical drawings



Molded Case Circuit Breakers
Power Defense™ UL Global Series
Part Number: PDG43G0800B2NJNNNNNN



Datasheet creation date: 20/11/2019

General Technical Data

Frame Rating (In)	800A
Reference Standard	UL489, CSA 22.2, IEC 60947-2 & GB
Number of poles	3
Neutral rating	-
Interruption Rating Designator	G / K / M
UL Interruption Rating to UL 489 (240Vac)	65 / 85 / 100kA
UL Interruption Rating to UL 489 (480Vac)	35 / 50 / 65(a)kA
UL Interruption Rating to UL 489 (600Vac)	18 / 25 / 35kA
UL Interruption Rating to UL 489 (125/250Vdc)	
UL Current Limiting	-
Rated breaking capacity to IEC 60947-2 (220-240 Vac Icu)	55 / 85 / 100 / 100kA
Rated breaking capacity to IEC 60947-2 (220-240 Vac Ics)	55 / 85 / 100 / 100kA
Rated breaking capacity to IEC 60947-2 (380-415 Vac Icu)	36 / 50 / 70 / 70kA
Rated breaking capacity to IEC 60947-2 (380-415 Vac Ics)	36 / 50 / 53 / 70kA
Rated breaking capacity to IEC 60947-2 (440 Vac Icu)	30 / 35 / 50 / 65kA
Rated breaking capacity to IEC 60947-2 (440 Vac Ics)	22.5 / 35 / 40 / 50kA
Rated breaking capacity to IEC 60947-2 (525 Vac Icu)	20 / 25 / 30 / 35kA
Rated breaking capacity to IEC 60947-2 (525 Vac Ics)	16.5 / 20 / 25 / 25kA
Rated breaking capacity to IEC 60947-2 (690 Vac Icu)	8 / 10 / 15 / 20kA
Rated breaking capacity to IEC 60947-2 (690 Vac Ics)	4 / 5 / 7.5 / 10kA
Rated breaking capacity to IEC 60947-2 (125V DC Icu)	
Rated breaking capacity to IEC 60947-2 (250V DC 2P in series Ics)	22 / 22 / 25kA
Frequency	50/60Hz
Trip Unit Type	PXR10
Continuous Current Range	320 - 800A
100% UL489 Rated	Yes
Instantaneous/Short Circuit Range	2 - 8 In
Magnetic/Instantaneous Override	6800A
Dimensions H x W x D (inches)	16 x 8.25 x 4.38
Pole to pole distance inches	2,75
Approx Weight lbs	29,98
RoHS Compliance	Yes
UL File Number	E7819
Ambient Temp Calibration	
Derating at 50C	
Derating at 60C	
Derating at 70C	

1. 480Vac corresponds to 277Vac for 1P
2. 600Vac corresponds to 347Vac for 1P



GILLETTE GENERATORS

**STANDARD
BATTERY CHARGER
12V SYSTEMS**



Description:

1 bank, 6 amp, 12V DC output charger with wide input voltage range (100-240V AC), is microprocessor controlled and has a maintenance mode that will keep the battery fully charged. Meets the CEC (California Energy Commission), DOE, FCC, CE, is RoHS compliant and has UL and CSA listings (cULus).

Electrical Characteristics:

Battery size: Group 24 through 31 (up to 120 Amp-Hr)

Battery Type: 12V lead acid (FLOODED and AGM)

Maximum Recharger time: 12 hours

Input Voltage Range: 100 to 240V AC 50/60 HZ

Input Current rating: 2.0 Amps maximum

Height 3.5 inches
8.89 cm

Width 6.4 inches
16.26 cm

Depth 2.42 inches
6.2 cm

Additional Details

Soft Start - "Soft Start" slowly charges the battery with 14.25V (10% of rated current). As soon as the max Soft Start timer (starts immediately when entering "Soft Start") of 6 hours is reached or when the battery reaches 10V for 30 seconds the charger switches to the "Bulk stage".

Bulk - "Bulk" charges the battery with 14.3V (100% of rated current) until the battery reaches 13.25V. As soon as the battery reaches 13.25V the Bulk timer will start counting after which it can charge the battery up to 12 hours until the voltage reaches 14.25V. As soon as the max Bulk timer (starts when voltage level is above 13.25V while in "Bulk") of 12 hours is reached or when the battery reaches 14.25V for 30 seconds the charger switches to the "Absorption stage".

Absorption - "Absorption" charges the battery with 14.25V. As soon as the Absorption timer (starts immediately when entering "Absorption") reaches 14 hours or when the charge current drops below 10% of the rated current for 30 seconds the charger switches to the "Float stage".

Float - "Float" keeps the charger on a specific voltage level of 13.25V (100% of rated current) for a period and then will switch to the "Maintenance stage"

Maintenance - As soon as the re-cycle timer reaches 14 days (336 hours) or when the voltage drops below 12.8V for 30 seconds the charger switches back to "Bulk stage"



GILLETTE GENERATORS

**2250 WATT
BLOCK HEATER
S-13E**



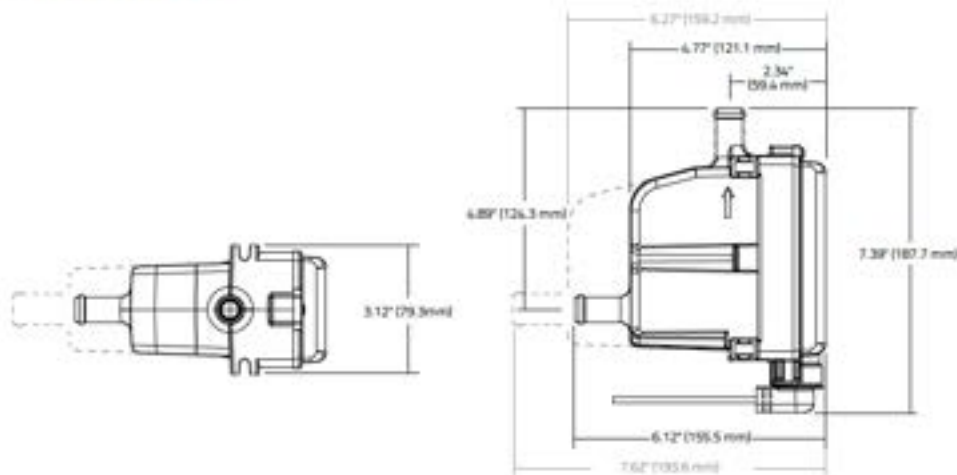
Description:

Provides engine warming for quick, clean starts Reduces time to reach operating temperature
Enhances immediate full-load acceptance
Durable aluminum housing is corrosion and impact resistant
Controls temperature by using a regulating thermostat
UL Listed, UL Recognized, CSA, and CE Certified
Thermostat on 80F, off 100F

Electrical Characteristics:

AC input: 240V, 2250 Watts, 9.3 Amps
Plug Type: NEMA 5-20
Inlet/Outlet Size: 3/4" (19mm)

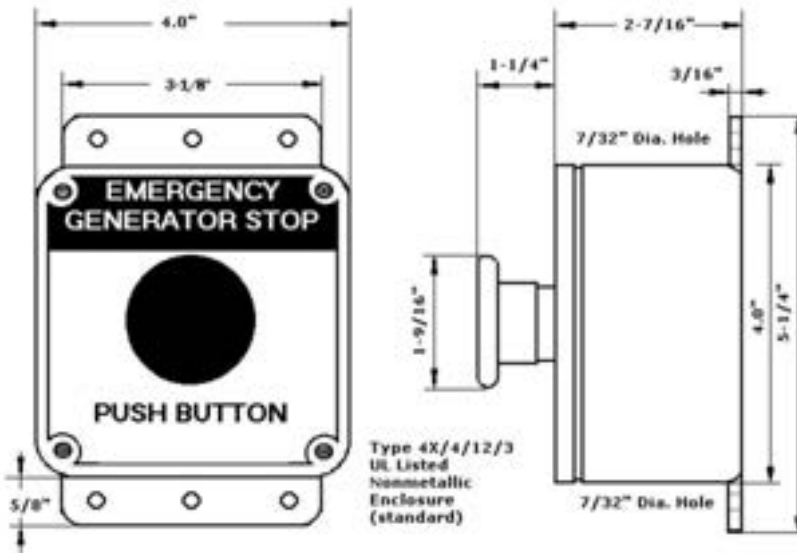
HEATER DIMENSIONS





GILLETTE GENERATORS

**S-17BC
EMERGENCY STOP
SWITCH WITH CLEAR
PLASTIC COVER**



Description:

Yellow nonmetallic NEMA 4X enclosure. Accepts one to three contact blocks. Labeled EMERGENCY GENERATOR STOP and PUSH BUTTON. Red operator is labeled PULL TO RESET. Includes clear plastic cover installed.

Electrical Characteristics:

Contact blocks (normally closed)

Screw and captive clamp terminals. Min: 1 X 24 AWG Max: 2 X 16 AWG
600 Vac @ 1.2 Amp 250 Vdc at 0.27Amp 120 Vdc @ 0.55 Amp

Specification:

PUSH BUTTON EMERGENCY GENERATOR STOP P/N GS120 uses a single push button operating mode. Using a maintained (push-pull) red 40mm mushroom operator hot stamped PULL TO RESET on the mushroom face. The operating mode reverses the nominal state of the installed contact blocks such that type contact blocks remain open/closed when the operator is pressed or pulled to reset. Clear plastic cover is pad-lockable & installed to prevent accidental operation.



GILLETTE GENERATORS

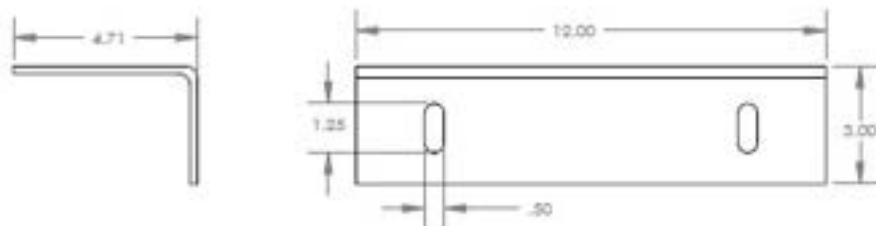
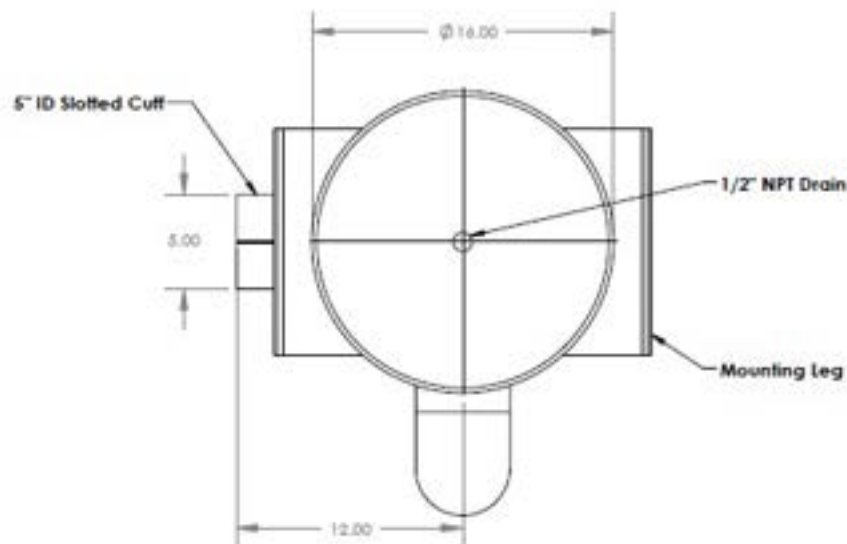
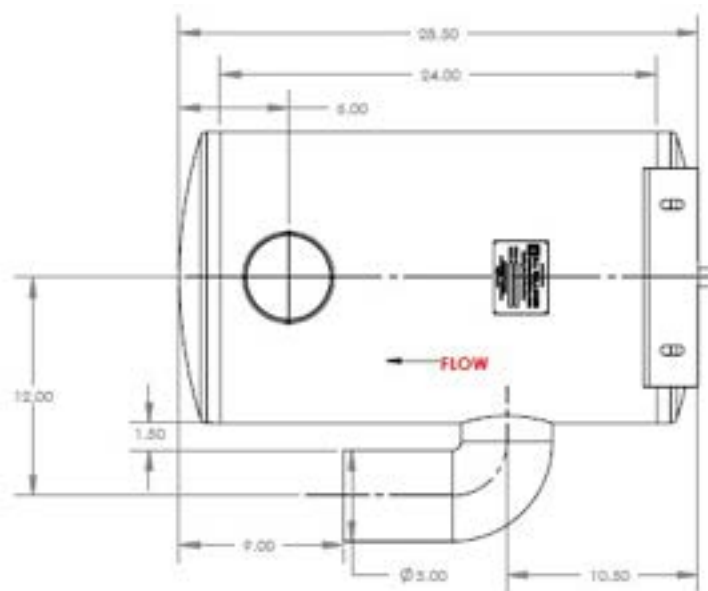
Notes:

All Dimensions are in Inches
Silencer Type: Cylindrical Silencer
Silencer Grade: Critical Grade
Sound Attenuation: 30 - 35 dBA
Insulation: No

CRITICAL SILENCER

TXS-5

200 KW GAS
250 KW DIESEL



Detail Mounting Leg (x2)



