HIPOWER® SafeGuard™ DIESEL GENERATOR SET

MODEL

HFSG-60

60Hz STANDBY **UL2200 & CSA**

60kW/60Hz/STANDBY/1800RPM

VOLTAGE VAC	120/240V	120/208V	139/240V	277/480V	347/600V**
RATING	Standby	Standby	Standby	Standby	Standby
PHASE	1	3	3	3	3
PF	1.0	0.8	0.8	0.8	0.8
HZ	60	60	60	60	60
KW	59.5	60	60	60	60
KVA	59.5	75	75	75	75
AMPS	247	208	180	90	72
SKVA@30% VOLTAGE DIP	N/A	N/A	N/A	N/A	N/A

** 600 Volt configuration not available as UL2200 certified generator

Description

HIPOWER® SafeGuard™ generators are an efficient, reliable and versatile source of mobile electrical power. Designed to operate in the most extreme working conditions. All HIPOWER® SafeGuard™ Generators combine an innovative design and the use of high quality materials that provide the user with the most dependable power that you can rely on for non-stop power with easy to operate controls. Powered by a radiator-cooled, industrial FPT Diesel engine, which meets current Environmental Protection Agency (EPA) TIER 3 exhaust emission regulations, driving a single bearing, four-pole, three-phase alternator, with IP23 protection. The Prime Power kVA rating for generator set is given with a 125 °C alternator winding temperature rise.

HIPOWER® Features and Benefits

FPT Diesel Engine: Long-life, heavy-duty, 4-cycle, direct injection engine for economy of operation and maximum reliability and durability. Capable of full rated load acceptance in one step.

Cooling: Radiator with belt driven pusher fan.

Air Filter: Heavy-duty replaceable element air-cleaner.

Alternator: Single bearing, rotating field, self-excited, self-ventilated, 12-wire re-connectable, and 4-wire dedicated for single phase version, 60Hz brushless alternator, Class H insulation. Automatic voltage regulator (AVR) providing close voltage regulation and skVA starting capability for electric motor loads.

Certification: ISO 8528-5.

HIPOWER® Features and Benefits

Enclosure: Fabricated in 11-gauge steel, powder coated with finish that exceeds 1000-hr salt spray test, minimum outside fasteners and four points lift. Vertical air discharge for quiet operation. Wide steel lockable access doors with seals, easy access for maintenance and service activities, lift off stainless steel hinges, corrosion resistant hardware and fasteners.

Exhaust: Low noise, steel residential-type exhaust silencer.

Fuel Filtration: Standard and secondary water separator with visible level on fuel filters.

Controls: Digital control panel with manual and automatic start and stop features. Many programmable automatic functions for local and remote controls with LED lights, tamper proof engine hour recorder. Load Connections: Covered distribution panel for easy access to cable power outlets, receptacles, lugs and Camloks.

HIMOINSA POWER SYSTEMS, INC.
16600 S. Theden Street, Olathe, KS 66062
Tel: 913 495 5557 | Fax: 913 495 5575 **www. hipowersystems.com**

Codes and Standards Compliances used where applicable

APPLICATION DATA

ENGINE SPECIFICATION	
Manufacturer	FPT
Model	NEF45SM2X
EPA certified	Tier 3
Crankshaft speed	1,800 rpm
Type	Diesel, 4-stroke
Injection	Direct
Aspiration	Turbocharged
Number of Cylinders	4
Cylinder arrangement	In-line
Displacement CID (liters)	275 (4.5)
Bore and Stroke ins (mm)	4.1x5.2 (104 X 132)
Nominal power	89.8 hp
Cooling	Liquid
Governor	Mechanical
Governor Regulation Class	ISO 8528 Part 1 Class G3
Frequency Regulation	Isochronous
Starting motor & alternator	12 volt
Compression ratio	17.5:1
Air cleaner type	Dry - light duty, single stage
Exhaust gas flow cu. ft./minute (cu.m. /minute)	487 (13.8)
Max. Exhaust temp at full load degrees °F (°C)	820 (438)
Max. permissible back pressure - ins H2O (kPA)	200 (50)
COOLING SYSTEM	
Engine cooling air flow - cu. ft./min (cu. m/min)	119.1 (3.37)
Alternator cooling flow - cu. ft./min (cu. m/min)	9.9 (0.281)
Total cooling air flow (engine + alternator + combustion) - cu. ft./min (cu. m/min)	133.64 (3.78)
Total cooling capacity - US gallons (liters)	4.88 (18.5)
Max. Operating Temperature °F (°C)	110 (43)
LUBRICATION SYSTEM	
Oil pan capacity - US gallons (liters)	2.59 (9.8)
Oil pan capacity with filter - US gallons (liters)	3.37 (12.8)
Oil cooler	Water - cooled
Recommended lubricating oil grade	ACEA E3-E5 - refer to owners manual
Oil consumption at full load	< 0.1% of fuel consumption
Oil pressure – psi (kPA)	46 (320)
ENGINE ELECTRICAL SYSTEM	
Starting motor voltage	12 volt
Cold Cranking Amps - minimum	92 Amp
Battery charging Alternantor	14V - 90 Amps
Battery capacity	640 Amps

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FUEL SYSTEM		
Recommended fuel	# 2 - ULSD	
Fuel supply line, min. ID mm(in.)	0.19 (9)	
Fuel return line,min. ID, mm (in.)	0.19 (9)	
Max. lift, fuel pump, type, m (ft)	1.85 (6)	
Fuel filter	Replaceable Element	
FUEL COMPSUNTION	Standby Power Rating	
100% load – US gallons/hour	4.57	
75% load - US gallons/hour	3.42	
50% load - US gallons/hour	2.28	
25% load - US gallons/hour (liters)	-	
ALTERNATOR SPECIFICATION		
Manufacturer	STAMFORD	
Model	UCI224F - UCI224E - UCI224F - UCI224E	
Voltages	120/208V - 277/480 - 120/240V - 347/600V	
Alternator Type	Four pole, rotating field	
Excitation System	Brushless.	
Power factor	0.8 / 1.0	
Number of leads	12 leads, reconnectable (Three phase) - 4 leads dedicated (Single phase)	
Stator Pitch	2/3	
Insulation	Class H	
Windings – Temperature Rise	125/40° C	
Enclosure (IEC-34-S)	IP23	
Bearing	Single, sealed	
Coupling	Flexible disc	
Amortisseur windings	Full	
Voltage regulation – no load to full load with AS480 AVR	± 1%	
TIF	<50	
Radio Frequency Emissions compliance	Meets requirements of most industrial and commercial applications	
Line harmonics	5% maximum	
STANDARD ACCESSORIES		
• Radiator with pusher fan	• Main line ABB UL listed circuit breaker for overload protection	
• Control Panel CEM7 (See over for details)	• Heated Control Panel	

OPTIONAL ACCESSORIES	
• Battery with Cables	• Anti-Condensation Heater
• Battery Blanket	• Water Jacket heater
• 6 Amp Battery charger, 12VDC	• 24h - ULC142 fuel tank
• Fuel Tank raiser	

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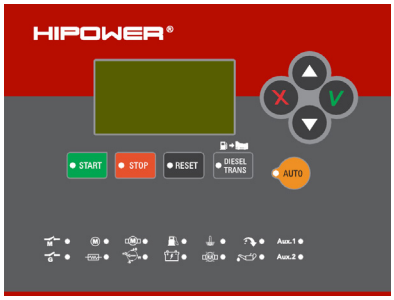
CONTROL SYSTEMS STANDARD FEATURES - Generator Digital Control Panel

HIPOWER® Control Panel: Hipower digital controller with auto and manual start capability. Digital readout for: volts between each phase & neutral, volts between phases, amps per phase, frequency, kW and kVA power, power factor, KW hour with accumulation by day, month and year, fuel reserve, oil pressure, coolant temperature, battery volts and charging alternator volts, engine speed, hours running. Engine alarms for high coolant temperature, low oil pressure, emergency stop activated, battery charging failure, low coolant level, low fuel level, over-speed, under-speed and low battery volts.

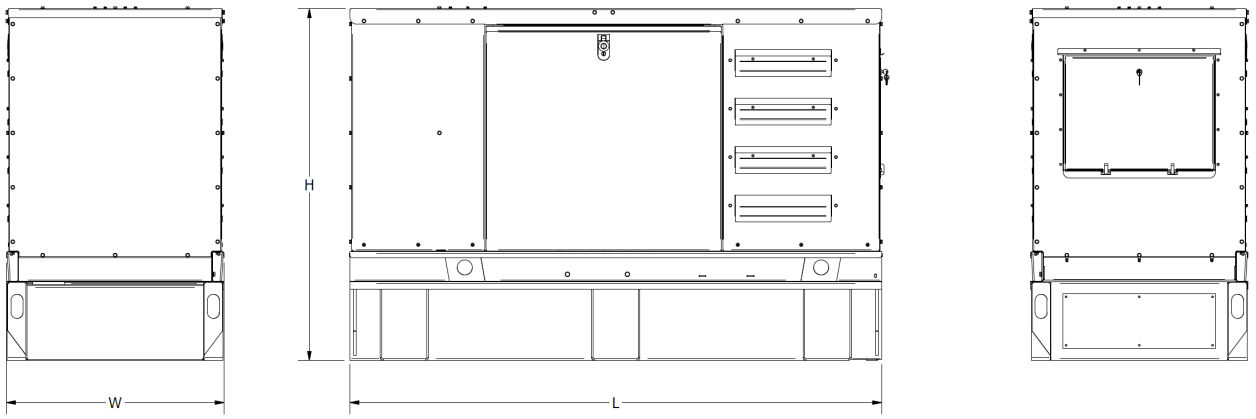
Engine alarms included: High coolant temperature, low oil pressure, low coolant level, unexpected shutdown, low fuel level, stop failure, low battery voltage, battery charging alternator failure, over-speed, under-speed, start failure and emergency stop. Support of engines with ECU (J1939, Modbus and other proprietary interfaces); alarm codes displayed in text form.



Alternator alarms included: Overload, unbalanced voltage, over voltage, under voltage, over frequency, under frequency, short circuit and reverse power.

DIMENSIONS, WEIGHTS & SOUND LEVELS

ENCLOSED SET



CONFIGURATION	Fuel Tank Data (Standard)		Generator Data *				
	Run Time Hours	Capacity (Gals)	L = Length	W = Width	H = Height	Weight lbs	dBA
Enclosed Set	24*	110*	100"	36"	47" - (62"*)	2635 - (3535*)	73

* Optional 24h ULC142 fuel tank

Intertek
Conforms to UL STD 2200
Certified to CSA STD C22.2#100
Certified to CSA STD C22.2#14

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