

MODEL

HNI-450 T6U



60Hz STANDBY POWER RATINGS

450kW/60Hz/1800RPM



VOLTAGE VAC	120/240V		120/208V		139/240V		277/480V		347/600V	
RATING	NG	LP	NG	LP	NG	LP	NG	LP	NG	LP
PHASE	1	1	3	3	3	3	3	3	3	3
PF	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
HZ	60	60	60	60	60	60	60	60	60	60
KW	N/A	N/A	448	300	448	300	448	302	450	302
KVA	N/A	N/A	560	375	560	375	560	377.5	562.5	377.5
AMPS	N/A	N/A	1555	1041	1348	902	673	454	541	364

Description

HIPOWER® Heavy Duty Industrial generators are an efficient, reliable and versatile source of back-up electrical power that have been designed to operate in the most extreme working conditions. All HIPOWER® Heavy Duty Industrial generators combine an innovative design and the use of high quality materials that provide the user with the most dependable power that can be relied on for non-stop power with easy to operate controls.

Powered by a radiator-cooled, industrial PSI Spark Ignited engine that meets current Environmental Protection Agency (EPA) exhaust emission regulations, driving a single bearing, four-pole, three-phase alternator, with IP23 protection. The Emergency Power kVA rating is given with a 125 degree °C alternator winding temperature rise.

HIPOWER® Features and Benefits

PSI Engine: Spark Ignited Engine: Long-life, heavy-duty, 4-cycle, spark-ignited 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, PMG-Excited, self-ventilated, 12-wire re-connectable, 60Hz brushless alternator with Class H insulation. Automatic voltage regulator (AVR) providing close voltage regulation and skVA starting capability for electric motor loads.

HIPOWER® Features and Benefits

Enclosure: Fully sound attenuated enclosure, manufactured using 7-gauge steel and thicker for the base; 12-gauge and 14-gauge for the enclosure, Interpon A4700 primer, in combination with Interpon 600 series coatings, are designed for exterior exposure and offers excellent light and weather resistance exceeding 1400-hr salt spray test. A 1" thick layer of durable sound insulating, oil and fire resistant foam material is installed all around the inside of the enclosure to allow high-pressure water cleaning. Vertical air discharge for quiet operation. Wide steel lockable access doors with rubber seals, easy access for maintenance and service activities, lift off Die Cast Zinc hinges textured black powder coat and corrosion resistant hardware and fasteners.

Exhaust: Effective low noise, steel catalytic converter with rain cap.

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.

Certification: Generator set is UL 2200 Listed and CSA certified and meets ISO 8528-5.

HIMOINSA POWER SYSTEMS, INC.

16600 South 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		LUBRICATION SYSTEM	
Manufacturer	PSI Heavy Duty	Oil pan capacity - qts (L)	35 (33)
Model	21.9L	Oil pan capacity with filter - qts (L)	42.4 (40)
EPA certified	Yes	Oil cooler	Liquid
Crankshaft speed	1,800 rpm	Recommended lubricating oil grade	SAE 15W-40 LOW ASH OIL API RATING OF CP/CF OR HIGHER
Type	LPG/NG fueled, 4-stroke	Oil consumption at full load	n/a
Ignition	Spark Plug	Oil pressure at 1000 rpm– psi (kPA)	44 (303)
Aspiration	Charged Cooled Forced Induction	ENGINE ELECTRICAL SYSTEM	
Number of Cylinders	12	Starting motor voltage	24 volt
Cylinder arrangement	V-Type	Cold Cranking Amps - minimum	N/A
Displacement CID (liters)	1388 (21.9)	Battery charging Alternator	45 Amp
Bore and Stroke ins (mm)	5 x 5.6 (128 x 142)	Battery capacity	1400CCA GROUP SIZE 8D
Nominal power	684 hp		
Cooling	Liquid		
Governor	Electronic		
Governor Regulation Class	ISO 8528 Part 1 Class G1		
Frequency Regulation	Isochronous		
Starting motor & alternator	24 Volt		
Compression ratio	10.5:1		
Air cleaner type	Dry, replaceable cartridge		
ALTERNATOR SPECIFICATION			
Manufacturer	STAMFORD		
Model 120/208V Three phase	HCI534D		
Model 277/480V Three phase	S4L1D-G		
Model 347/600V Three phase	HCI534C		
Alternator Type	Four pole, rotating field		
Excitation System	Brushless. PMG-excited		
Power factor	0.8		
Number of leads	12 leads, reconnectable		
Stator Pitch	2/3		
Insulation	Class H		
Windings – Temperature Rise	Class H (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 MX341 AVR	± 1%		
TIF	<50		
Radio Frequency Emissions compliance	Meets requirements of most industrial and commercial applications		
Line harmonics	5% maximum		

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STANDARD FEATURES

ENCLOSURE	ENGINE SYSTEM	COOLING SYSTEM
Rust-Proof Fastener with rubber washers to protect finish	Oil Drain Extension w/Valve	Factory-Installed Radiator
High Performance Sound-Absorbing Material	Air Cleaner	Radiator Drain Extension w/Valve
Gasketed Doors	Fan Guard	50/ 50 Ethylene Glycol Antifreeze
Air Discharge Hoods for Radiators (Upwards/ Downward Pointing)	Factory Filled Oil	ALTERNATOR SYSTEM
Lift Off Door Hinges	Battery Charging Alternator	12 leads (3-Phase, Non 600V)
Stainless Steel Lockable Handles	GENERATOR SET	Class H Insulation Material
Textured Polyester Powder Coat + Primer	Internal Genset Vibration Isolation	Vented Rotor 2/3 Pitch
ELECTRICAL SYSTEMS	Separation of Circuits - High/ Low Voltage	Full Load Capacity Alternator
Battery	Wrapped Exhaust Piping	Protective Thermal Switch
Battery Cables	Standard Factory Testing	PMG with MX341 AVR
Battery Tray	2 Year / 2,000 Hour Limited Warranty	
DSE 7410 Controller		

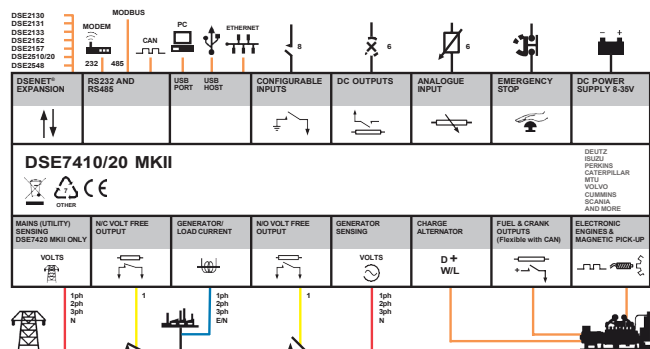
CONTROL SYSTEM



DSE7410 MKII

- Charge alternator failure alarm
- 4-Line back-lit LCD text display
- Front panel editing with PIN protection
- Customizable status screens
- Power save mode
- 11 configurable inputs
- 8 configurable outputs
- Flexible sensor inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)

- “Protections disabled” feature
- kW protection
- Reverse power (kW) protection
- LED and LCD alarm indication
- Power monitoring (kWh, kVAr, kVAh, kVArh)
- Load switching (load shedding and dummy load outputs)
- Independent Earth Fault trip
- Fuel usage monitor and low fuel alarms
- Configurable display languages
- User selectable simultaneous RS232, RS485 & Ethernet communications
- MODBUS RTU & TCP support
- Configurable MODBUS pages
- Fully configurable via DSE Configuration Suite PC software
- Data logging to assist with fault finding
- PLC editor allows user configurable functions to meet specific application requirements
- License-free PC software
- Multiple date and time scheduler
- DSENet® expansion compatible



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CONFIGURABLE OPTIONS

ENCLOSURE	ENGINE SYSTEM	CIRCUIT BREAKER OPTIONS
Open Skid	Water Jacket Heater (with Isolation Valves)	LSI Electronic Trip 80% and 100% Rated
Level 1 Sound Attenuated	ELECTRICAL SYSTEM	LS/I Electronic Trip 80% and 100% Rated
Level 2 Sound Attenuated	Battery Warmer	LSIG Electronic Trip 80% and 100% Rated
Level 1 Sound Attenuation (Aluminum Enclosure)	Battery Charger	Thermo-Magnetic Trip 80% and 100% Rated
Level 2 Sound Attenuation (Aluminum Enclosure)	10 Positions Load Center (100 Amps)	Second Main Line Circuit Breaker
ALTERNATOR SYSTEM	Remote ESTOP with N3R Break Glass	Shunt Trip
Anti-condensation heater	120V GFCI Receptacle	Auxiliary Contacts for MLCB
Rheostat	10A Relay Common Alarm	Auxiliary Contacts for Secondary Breaker
PMG with MX321 AVR or DSE A109	10A Run Relay	Mechanical Lugs
CONTROL SYSTEM	GENERATOR SET	
Spare Inputs (x4) / Output (x4)	Control Panel Heater	Extended Test
DSE2130 - DSENet Input Expansion Module	8, 16, & 24 Leds Remote Annunciator on Surface Mounted Box	Extended Warranty
DSE2157 - DSENet Output Expansion Module	DSE8610 Parallel Controller + Motorized Breakers	Custom Testing
Remote Display Module	AC/DC Enclosure Lighting Kit + Timer	NFPA110 Kit
	Enclosure Heater	Fuel System Options (Natural Gas, LP/LPV, Dual Fuel)

ENGINEERED OPTIONS

ENCLOSURE	ALTERNATOR SYSTEM	CIRCUIT BREAKER OPTIONS
Air Outlet Gravity Dampers	Bearing RTD's on Alternator	3rd Breaker System
Air Inlet Motorized Dampers (Only with Level 2)	Main Stator RTD's on Alternator (2 per Phase)	Shunt Trip on 3rd Breaker
ENGINE SYSTEM	Tropical Coating	Auxiliary Contact on 3rd Breaker
Fluid Containment Pan	Alternator Up-sizing	ELECTRICAL SYSTEM
		240V Twist Lock Receptacle

OPERATING DATA

FUEL SYSTEM				
Fuel type	Natural Gas, LP Vapor withdrawal, LP			
NG and LPV Fuel supply line - inlet	2" NPTF			
LP Fuel supply line - inlet	3/8" NPTF			
Natural gas and LPV fuel supply pressure	10 PSI			
LP fuel supply pressure	312 PSI (Max)*			
FUEL CONSUMPTION - NATURAL GAS (Measured at genset fuel inlet, downstream of any dry fuel or filter accessories)		m3/h	ft3/h	BTU/h
100% load		122.4	4,320	4,440,864
75% load		91.8	3,240	3,330,648
50% load		61.2	2,160	2,220,432
25% load		30.6	1,080	1,110,216
FUEL CONSUMPTION - LPG (Measured at genset fuel inlet, downstream of any dry fuel or filter accessories)		m3/h	ft3/h	BTU/h
100% load		36.4	1,283	3,227,824
75% load		27.3	963	2,420,868
50% load		18.2	642	1,613,912
25% load		9.1	321	806,956
COOLING SYSTEM				
Engine cooling air flow	cfm (m ³ /min) 39,995 (1,133)			
Alternator cooling flow	cfm (m ³ /min) 2202 (62.4)			
Combustion air flow	cfm (m ³ /min) 917 (26)			
Total cooling air flow (engine+alternator+combustion)	cfm (m ³ /min) 43,114 (1223.4)			
Total cooling capacity	US gallons (liters) 51 (193)			
Max Ambient Operating Temperature	°F (°C) 114(46)			

Starting Capabilities (sKVA)

	480V					208/240V					600V				
	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%
Standard	320	500	700	930	1200	380	580	800	1060	1380	340	520	760	1020	1320
Upsized	380	600	860	1160	1480	400	640	900	1220	1580	400	620	880	1180	1480

Circuit Breaker

	277/480V	120/208V	120/240V	347/600V
Make and model	ABB T6N800TW	ABB T8VBD3GC00000XX	ABB T8VBCFC0000000X	ABB T6N600TW
Amps	800A	2000 A	1600 A	600 A

*Pressure listed is the max working pressure of vaporizer. No minimum pressure listed but must be high enough to keep propane liquified

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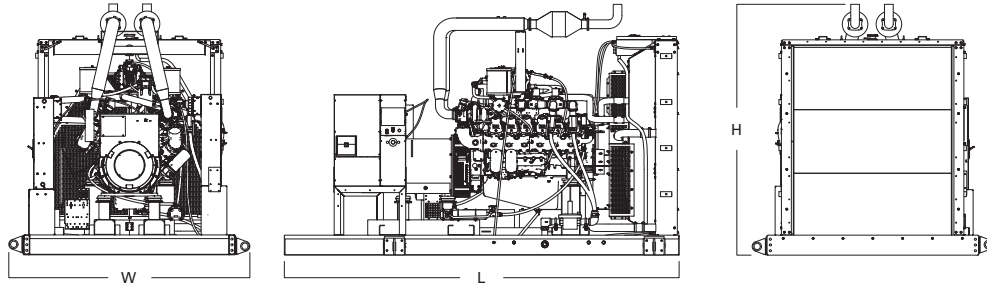
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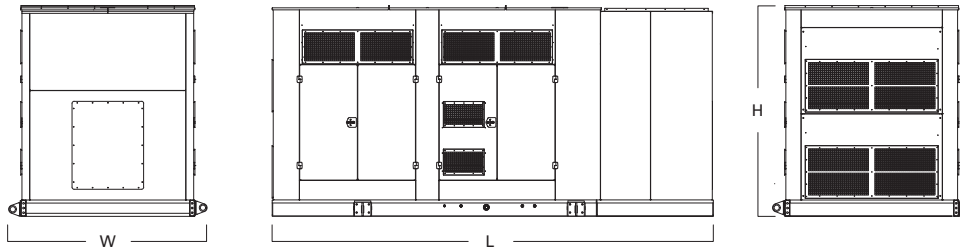
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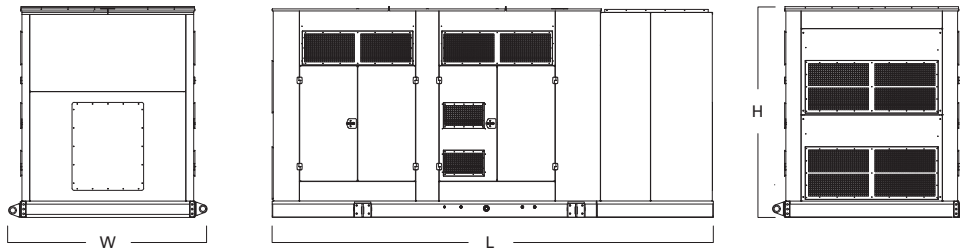
DIMENSIONS, WEIGHTS & SOUND LEVELS



CONFIGURATION	L = Length	W = Width	H = Height	Weight lbs	dBA
OPEN SET	158.7"	97"	100.8"	11,140	TBD



CONFIGURATION	L = Length	W = Width	H = Height	Weight lbs	dBA
LEVEL 1 ENCLOSURE	223.7	97"	103.1"	13,870	79



CONFIGURATION	L = Length	W = Width	H = Height	Weight lbs	dBA
LEVEL 2 ENCLOSURE	223.7	97"	103.1"	14,340	74

* All measurements are approximate and for estimation purposes only. Weights are without fuel tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.



Intertek

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

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