HIPOWER®
A YANMAR COMPANY

HD Industrial SPARK-IGNITED GENERATOR

MODEL
HNI-500 T6U

60Hz STANDBY POWER RATINGS

500kW/60Hz/1800RPM

VOLTAGE VAC	120/240V	120/208V	139/240V	277/480V	347/600V**
RATING	Standby	Standby	Standby	Standby	Standby
PHASE	N/A	3	3	3	3
PF	N/A	0.8	0.8	0.8	0.8
HZ	N/A	60	60	60	60
KW	N/A	500	500	500	500
KVA	N/A	625	625	625	625
AMPS	N/A	1734	1503	751	601

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

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APPLICATION DATA

ENGINE SPECIFICATION		LUBRICATION SYSTEM	
Manufacturer	PSI Heavy Duty	Oil pan capacity - qts (L)	35 (33)
Model	21.9L HO	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	NG fueled, 4-stroke	Oil consumption at full load	n/a
Igniton	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	764 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, replacable cartridge		
ALTERNATOR SPECIFICATION			
Manufacturer	STAMFORD		
Model 120/208V Three phase	HCI534E		
Model 277/480V Three phase	HCI534D		
Model 347/600V Three phase	HCI534D		
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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HNI-500 T6U - 500 Kw
Heavy Duty Industrial

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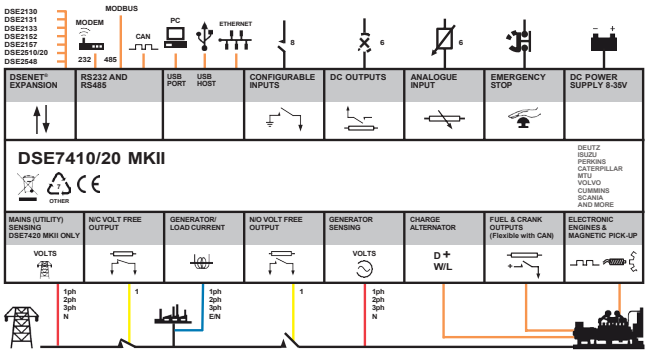
STANDARD FEATURES

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 funcions 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	Control Panel Heater	**GENERATOR SET**
Spare Inputs (x4) / Output (x4)	8, 16, & 24 Leds Remote Annunciator on Surface Mounted Box	Extended Test
DSE2130 - DSENet Input Expansion Module	DSE8610 Parallel Controller + Motorized Breakers	Extended Warranty
DSE2157 - DSENet Output Expansion Module	AC/DC Enclosure Lighting Kit + Timer	Custom Testing
Remote Display Module	Enclosure Heater	NFPA110 Kit
		Fuel System Options (Natrual 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

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OPERATING DATA

FUEL SYSTEM	
Fuel type	Natural Gas
Fuel supply line - inlet	2" NPTF
Natural gas fuel supply pressure	10PSI

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	135	4760	4,886,150
75% load	102	3570	3,664,605
50% load	68	2380	2,443,070
25% load	34	1190	1,221,535
FUEL CONSUMPTION - LPG (Measured at genset fuel inlet, downstream of any dry fuel or filter accessories)	**lb/h**	**gal/h**	**BTU/h**
100% load	N/A	N/A	
75% load	N/A	N/A	
50% load	N/A	N/A	
25% load	N/A	N/A	

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	450	720	1040	1375	1750	400	650	925	1230	1580	400	620	890	1180	1520
Upsized	550	850	1200	1600	2070	450	725	1020	1380	1760	440	680	980	1300	1660

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

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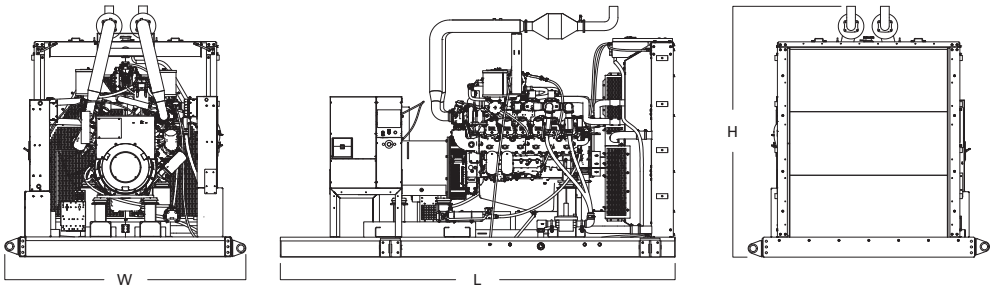
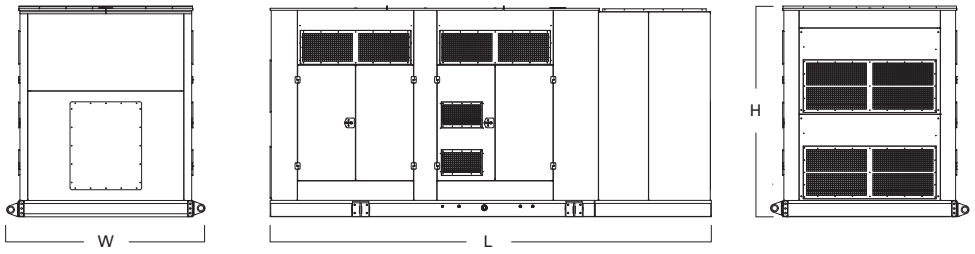
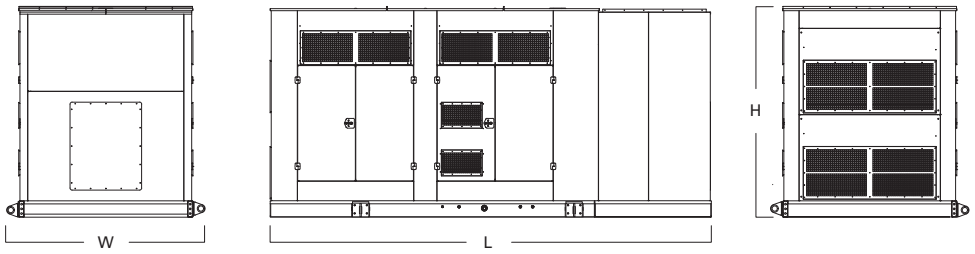
DIMENSIONS, WEIGHTS & SOUND LEVELS



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

REV-02

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