

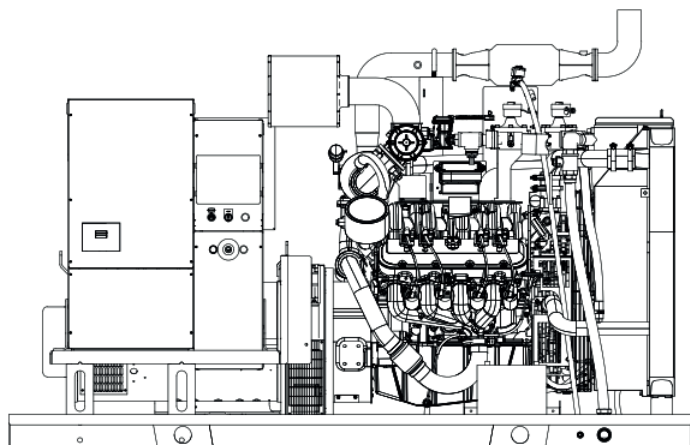
MODEL

HNI-100



60Hz STANDBY POWER RATINGS

100kW/60Hz/1800RPM



VOLTAGE VAC	120/240V		120/208V		139/240V		277/480V		347/600V**	
RATING	Natural Gas	LP	Natural Gas	LP	Natural Gas	LP	Natural Gas	LP	Natural Gas	LP
PHASE	1		3		3		3		3	
PF	1.0		0.8		0.8		0.8		0.8	
HZ	60		60		60		60		60	
KW	96.4	83	98.3	88.2	98.3	89.1	99.4	89.1	99.2	91
KVA	96.4	83	122.9	110.3	122.9	111.4	124.3	111.4	124	113.4
AMPS	401.8	345.8	341	306	295	267.8	149.4	133.9	119.3	109.5

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, 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, 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.

Codes and Standards Compliances used where applicable



APPLICATION DATA

ENGINE SPECIFICATION		LUBRICATION SYSTEM	
Manufacturer	PSI Heavy Duty	Oil pan capacity - qts (L)	5 (4.7)
Model	5.7LTCAC	Oil pan capacity with filter - qts (L)	5 (5.7)
EPA certified	Yes	Oil cooler	Liquid
Crankshaft speed	1,800 rpm	Recommended lubricating oil grade	SAE 5W-30 API RATING OF SM OR NEWER
Type	LPG/NG fueled, 4-stroke	Oil consumption at full load	n/a
Ignition	Spark Plug	Oil pressure – psi (kPA)	56 (386)
Aspiration	Charged Cooled Forced Induction	ENGINE ELECTRICAL SYSTEM	
Number of Cylinders	8	Starting motor voltage	12 volt
Cylinder arrangement	V-Type	Cold Cranking Amps - minimum	N/A
Displacement CID (liters)	350 (5.7)	Battery charging Alternator	60 Amp
Bore and Stroke ins (mm)	4 x 3.48 (101.6 x 88.4)	Battery capacity	650CCA 850CA 115RC GROUP SIZE 24F
Nominal power	163.54 hp		
Cooling	Liquid		
Governor	Electronic		
Governor Regulation Class	ISO 8528 Part 1 Class G1		
Frequency Regulation	Isochronous		
Starting motor & alternator	12 Volt		
Compression ratio	9.4:1		
Air cleaner type	Dry, replaceable cartridge		
ALTERNATOR SPECIFICATION			
Manufacturer	STAMFORD		
Model 120/240V Single phase	UCI274D		
Model 120/208V Three phase	UCI274D		
Model 277/480V Three phase	UCI274C		
Model 347/600V Three phase	UCI274D		
Alternator Type	Four pole, rotating field		
Excitation System	Brushless. PMG-excited		
Power factor	1.0/0.8		
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		

Codes and Standards Compliances used where applicable



STANDARD FEATURES

Enclosure (If selected)	Engine System	Fuel System
Rust-Proof Fastener with Nylon Washers Protect Finish	Oil Drain Extension	
High Performance Sound-Absorbing Material (L1)	Air Cleaner	
Gasketed Doors	Fan Guard	Generator set
Air Discharge Hoods for Radiators-Upwards Pointing	Factory Filled Oil	2 Year/2000 hours Limited Warranty
Lift Off Door Hinges	Battery Charging Alternator	Separation of Circuits – Multiple Breakers (load center)
Stainless Steel Lockable Handles	Alternator Systems	Separation of Circuits – High / Low Voltage
Textured Polyester Powder Coat	12 Leads (3-Phase, Non 600V)	Internal Genset Vibration Isolation
Cooling System	Class H Insulation Material	Wrapped Exhaust Piping
Factory-Installed Radiator	Vented Rotor	Standard Factory Testing
Radiator Drain Extension	2/3 Pitch	Emergency Stop
50/50 Ethylene Glycol Antifreeze	Full Load Capacity Alternator	
Electrical Systems	Protective Thermal Switch	
Battery Cables and Battery Tray	Permanent Magnet Excitation	
Batteries	Skewed Stator	
	PMG with MX341	

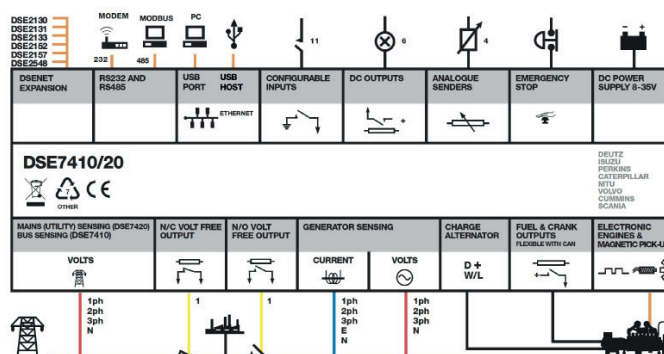
CONTROL SYSTEM



DSE7410 MKII

- Charge alternator failure alarm
- 4-Line back-lit LCD text display
- Front panel editing with PIN protection
- Customisable 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



CONFIGURABLE OPTIONS

ENCLOSURE	ENGINE SYSTEM	ELECTRICAL SYSTEM
Open Skid	Oil heater	Battery Warmer
Weather Enclosure	120V-1ph Water Jacket Heater (with Isolation Valves)	10A Battery Charger
Level 1 Sound attenuated	Oil Level Makeup	5A Battery Charger
Level 2 Sound attenuated	Auto LP Liquid Withdrawal Fuel System with vaporizer	10 Positions Load Center (100Amps)
ALTERNATOR SYSTEM		Remote ESTOP with N3R break glass
Tropical coating	CIRCUIT BREAKER OPTIONS	120V GFCI receptacle
Anti-condensation heater	Thermal-Magnetic trip 80% and 100% rated	10A Relay common alarm
Alternator upsizing	LSI Electronic trip 80% and 100% rated	10A Run Relay
Rheostat	LSI Electronic trip 80% and 100% rated	8 LED Remote Annunciator on Surface mounted Box
MX321 AVR	LSIG Electronic trip 80% and 100% rated	16 LED Remote Annunciator on Surface mounted Box
	Shunt trip	24 LED Remote Annunciator on Surface mounted Box
	Auxiliary Contacts for Main and Secondary Breaker	
	Second Main Line Circuit Breaker	GENERATOR SET
	Mechanical Lugs	Extended Factory Load Testing
		Extended Warranty

ENGINEERED OPTIONS

ENCLOSURE	ENGINE SYSTEM	ELECTRICAL SYSTEM
	Fluid Containment Pan	AC/DC Enclosure Lighting Kit with Timer
		Enclosure Heater
		240V Twist lock receptacle
CIRCUIT BREAKER OPTIONS	CONTROL SYSTEM	GENERATOR SET
Third Main Line Circuit Breaker	Spare inputs (x4) / output (x4)	Special Testing
	DSE2130 - DSENet Input Expansion Module	Battery Box
	DSE2157 - DSENet Output Expansion Module	
	DSE855 - DSENet USB to Ethernet ModBus TCP/IP Communication Module	
	DSE892 - DSENet USB to Ethernet ModBus TCP/IP - SNMP Comm. Module	
	DSE2520 - Remote Display Module	

Codes and Standards Compliances used where applicable



OPERATING DATA

FUEL SYSTEM				
Fuel type	Natural Gas, LP Vapor withdrawal, LP			
NG and LPV Fuel supply line - inlet	1-1/4" NPTF (NG/LPV)			
LP Fuel supply line - inlet	3/8" (LP)			
Natural gas and LPV fuel supply pressure	7" to 11"column H2O			
LP fuel supply pressure	LP - 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		35	1,247	1,281,747
75% load		26	935	961,310
50% load		18	623	640,874
25% load		9	328	336,748
FUEL CONSUMPTION - LPG (Measured at genset fuel inlet, downstream of any dry fuel or filter accessories)		m3/h	ft3/h	BTU/h
100% load		14	490	1,232,442
75% load		10	368	924,331
50% load		8	275	690,167
25% load		4	147	369,733
COOLING SYSTEM				
Engine cooling air flow	cfm (m³/min)	13,000 (369)		
Alternator cooling flow	cfm (m³/min)	1,308 (37)		
Combustion air flow	cfm (m³/min)	262 (8)		
Total cooling air flow (engine+alternator+combustion)	cfm (m³/min)	14,570 (414)		
Total cooling capacity	US gallons (liters)	1.95 (7.8)		
Max, Ambient Operating Temperature	° F (° C)	120(50)		
EXHAUST				
Maximum allowable back pressure	inH20(kPa)	3(10.2)		
Exhaust Volumetric Flow Rated @ Rated Power 1350° F	cfm (m³/min)	845.9 (23.95)		

Starting Capabilities (sKVA)

	240V					480V					208/240V					600V				
	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%	10%	15%	20%	25%	30%
Standard	75	120	170	225	290	90	140	200	265	340	85	135	185	250	320	110	175	250	335	430
Upsized	70	110	155	210	270	110	175	250	330	420	90	140	200	270	340	115	185	260	350	450

Circuit Breaker

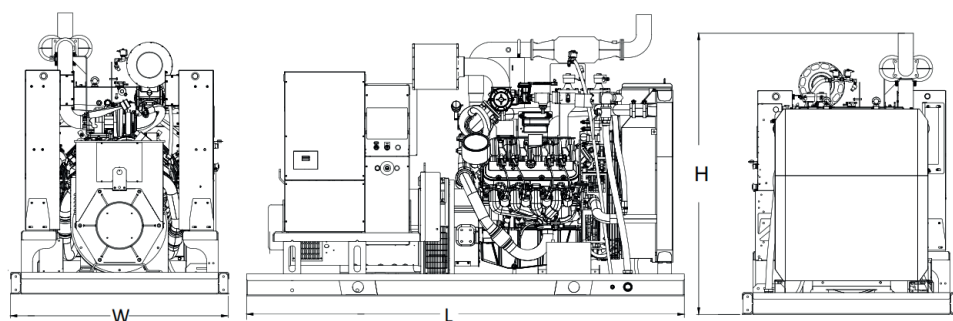
	120/240V		277/480V		120/208V		120/240V		347/600V	
Make and model	ABB T5N400TW		ABB XT1NU3150AFF		ABB T5N300TW		ABB T5N400TW		ABB XT1NU3150AFF	
Amps	400 A		150 A		300 A		400 A		150 A	

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

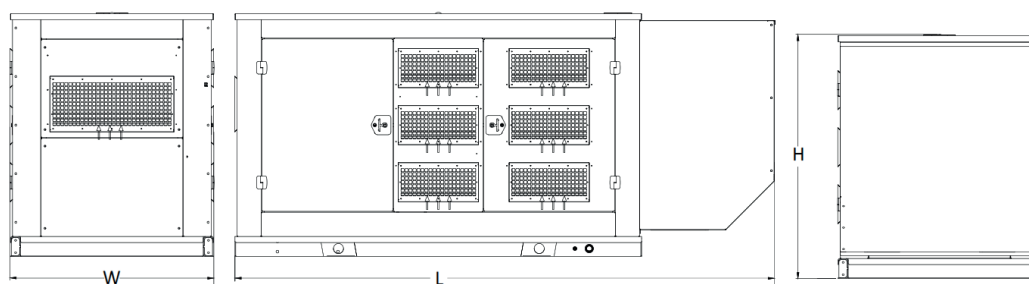
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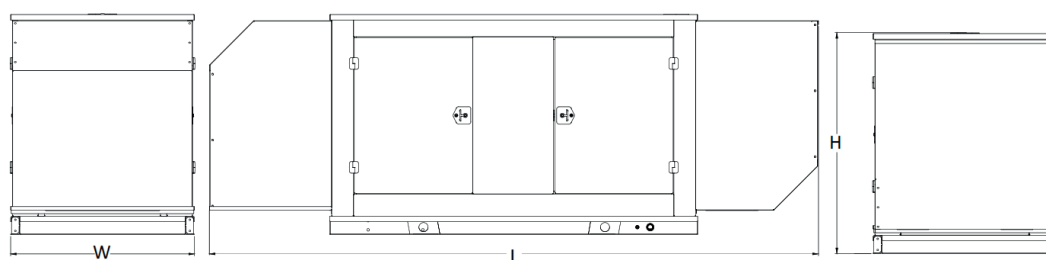
DIMENSIONS, WEIGHTS & SOUND LEVELS



CONFIGURATION	L = Length	W = Width	H = Height	Weight lbs	dBA
OPEN SET	100.7"	50.3"	64.7"	3430	TBD



CONFIGURATION	L = Length	W = Width	H = Height	Weight lbs	dBA
LEVEL 1 ENCLOSURE	133.8"	50.3"	60.1"	4350	78



CONFIGURATION	L = Length	W = Width	H = Height	Weight lbs	dBA
LEVEL 2 ENCLOSURE	166.8"	50.3"	60.1"	4490	75

* 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-04

Codes and Standards Compliances used where applicable

