

For four decades, Northern Lights has built steadfast, reliable generator sets for the industrial market. From the extremes of the Alaska bush, to the deserts of the Middle East, Northern Lights Land Based Generator sets have been built to last.

The NL1066 Series features several benefits that make them the most reliable, durable and simple to use and maintain machines in their power range. From 90-185 kW of prime power, with electronic fuel systems, the NL1066's are up to the most arduous tasks. The 185kW prime NL1066H4 model even utilizes the innovative high pressure common rail fuel system.

Every NL1066 in the series combines a high torque, low RPM John Deere industrial diesel, a conservatively rated generator end and your choice of controls. The resulting power system is equally adept at providing economical prime power or reliable stand-by protection.

No lightweight engines on Northern Lights; the base engine is a two or four valve, in-line designed for peak torque at low RPM. These engines meet all current EPA, CARB and CE emissions standards - you have the peace of mind of clean energy even in pristine environments.

Liquid-cooled with a radiator, the NL1066 Series is equipped with a hand guard and a steel radiator shroud for optimum safety and reliability.

The key principal to all Northern Lights' product is simplicity of design. Unnecessary belts and hoses are engineered away. Most service points are placed on a common side. Spin-on oil and fuel filters help make routine maintenance a breeze.

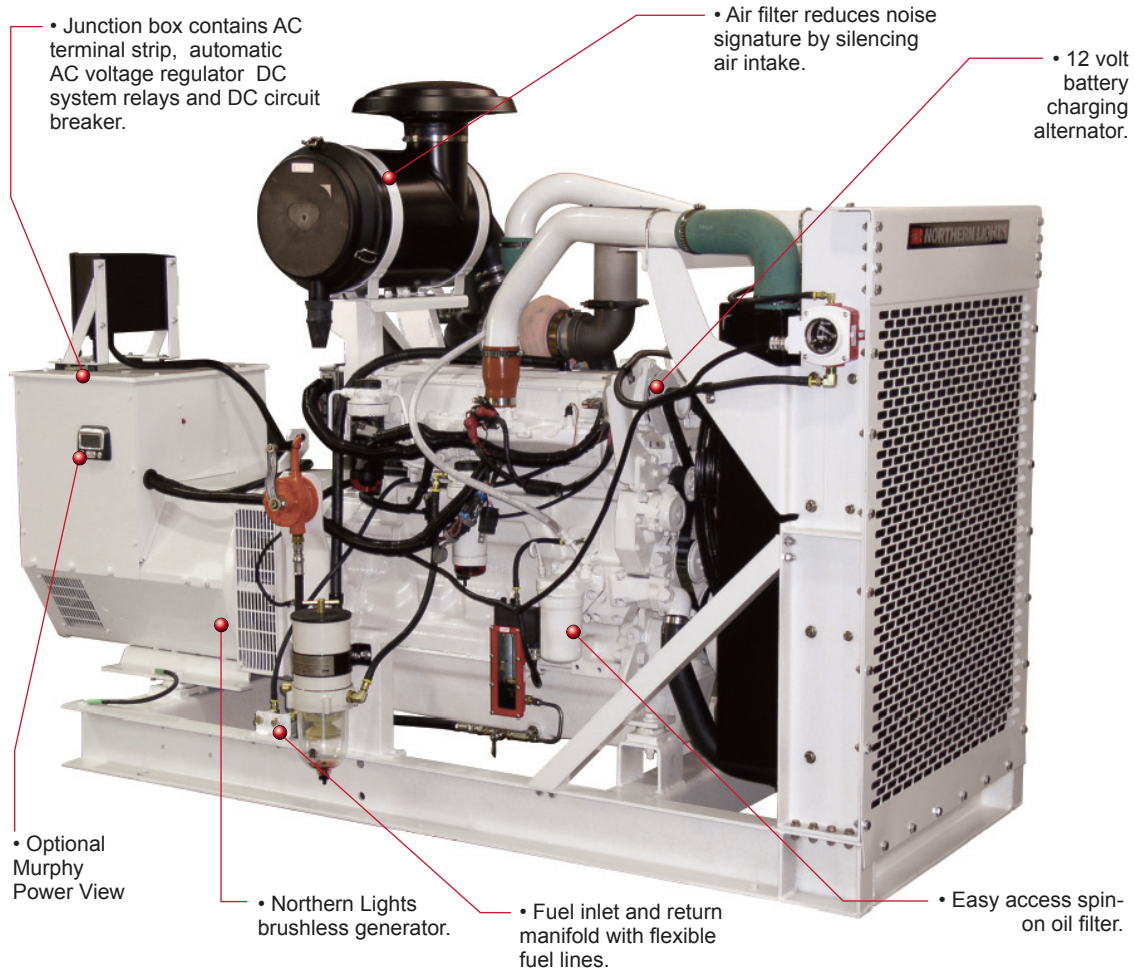
For added quality assurance, every Northern Lights is thoroughly load tested before shipment. This attention to detail further assures your satisfaction and years of service.

90-185 kW
Prime Power

100-200 kW
Standby

Like all Northern Lights products, the NL1066 series is fully customizable. From control panels to enclosures and more, our engineers can use an NL1066 as a foundation for a custom set specifically designed for your power requirements.

For base camps, barges, homes or even off-grid power, Northern Lights has an industrial solution that is right for you.



NL1066H4
185 kW Prime
200 kW Standby
Service side.

Engine Block

- John Deere-based, six inline cylinder, two or four valve per cylinder diesel engine.
- Balanced, forged crankshaft with induction hardened journals and rolled fillets.
- Turbo charged and aftercooled (aftercooler on machines 130kW and up) to increase performance with lower emissions and higher power density.
- Replaceable valve seats and guides.
- Replaceable, wet cylinder liners for long life and low rebuild costs.
- Liquid cooled with radiator.
- Eight groove, poly-vee single belt fan drive system. Pusher cooling fan equipped with hand guard to protect operator. Steel radiator shroud comes standard.
- Torsonial crankshaft vibration damper for smooth operation.
- Bimetallic valves with chrome stems and rotators.
- Automatic shutdowns for low oil pressure and high coolant temperature protect engine.

Fuel System

- Engine-mounted spin-on fuel filter with drain valve. Easy element change without tools.
- Fuel lines routed to fuel manifold on base frame for easy installation.
- Ring clamp fuel filter with air bleed and drain.
- Diaphragm type, mechanically driven fuel transfer pump with manual priming level on 2 valve units.

Lubrication System

- 500 hour oil change (with special requirements).
- Positive displacement gear-type oil pump
- Full flow, spin-on oil filter.
- Oil spray piston cooling reduces piston crown temperature to promote long life.
- Cast aluminum rocker arm cover traps valve noise.
- Large capacity oil pan and lube oil drain for quick, efficient oil changes.
- Shipped with lube oil.

Air/Exhaust System

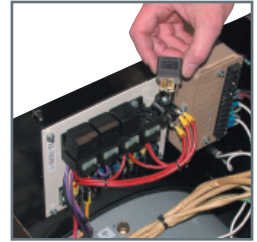
- Large, dry element, industrial air filter protects engine in dusty environments.

DC Electrical System

- 12 volt electrical system with starter motor, battery charging alternator and regulator.

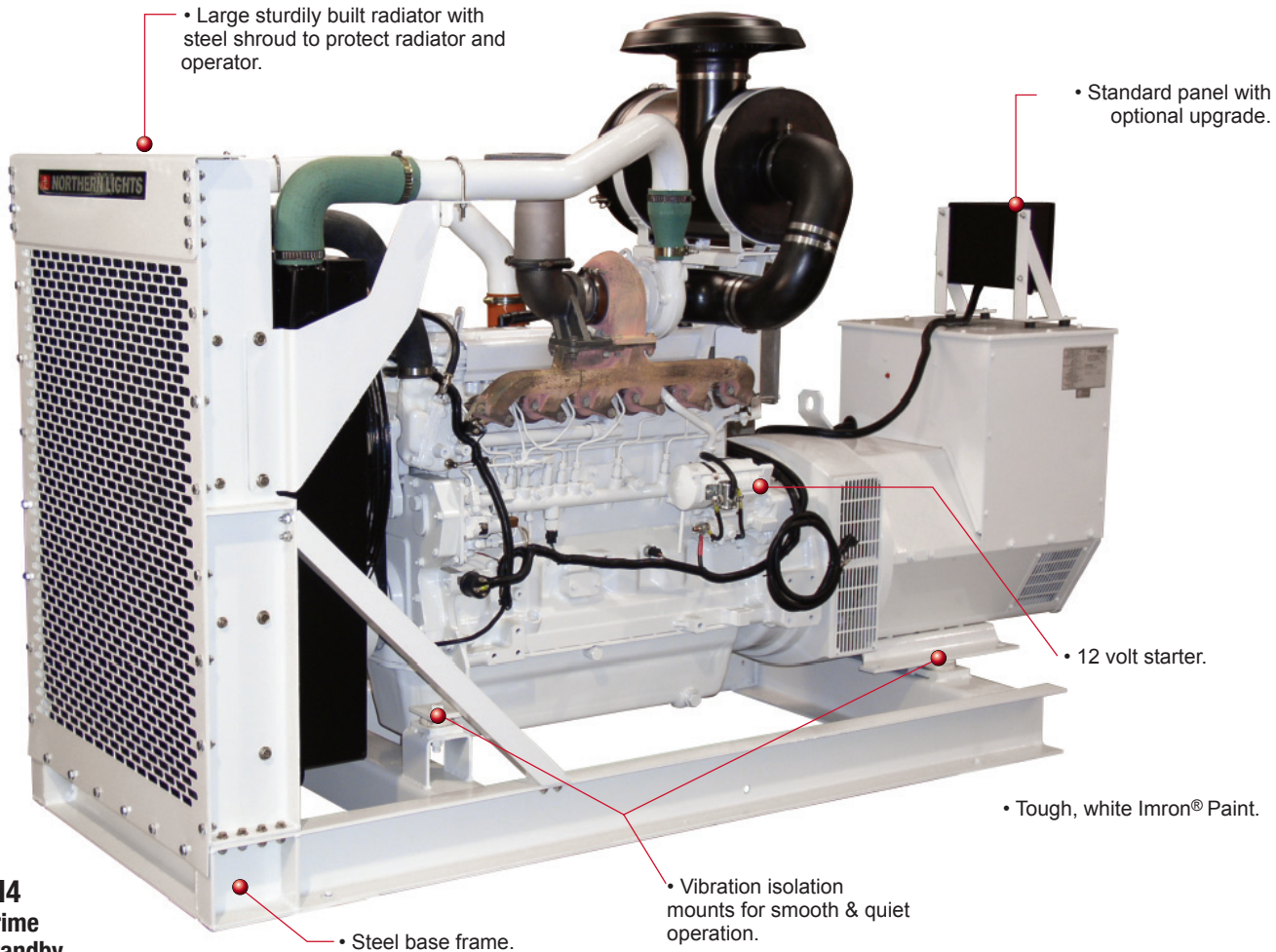
AC Generator

- Stamford, direct coupled, single bearing, 12 lead, reconnectable generators torsionally matched to engine.
- Brushless design is maintenance-free.
- Generators meet or exceed NEMA standards with class H insulation, accessible diodes, oversized ball bearings and conservative 105° C temperature rise at prime rating (130° C at standby).
- Automatic voltage regulators (AVR) provide quick response, excitation support and stable paralleling. Voltage is regulated to +/- 1.5% RMS from no load to full load.



Special Features

- Standard control panel with NEMA 1 enclosure, oil pressure and coolant temperature gauges, DC volt and engine hour meters, and engine control switches.



NL1066H4
185 kW Prime
200 kW Standby
 Non-service side.

- Heavy duty, steel base frames.
- Long life white Imron® paint for optimal service visibility.
- Center bonded vibration isolation mounts reduce noise and vibration.
- Parts and operator's manual standard.
- Every set is load tested with controls installed.



Fuel Injection Systems

NL1066 generator sets feature electronically controlled fuel injection pumps. Here are the features and benefits of the different injection systems used in the NL1066 generator line.

Electronic DE10 (NL1066T, NL1066H1)

Electronic VP44 (NL1066H2, NL1066H3)

Electronically controlled rotary fuel pump provides higher injection pressure, variable timing control and precise fuel metering.

Higher power, with lower emissions, from these two-valves per cylinder models.



High Pressure Common Rail (NL1066H4)

HPCR fuel injection system provides high output with exceptional fuel economy, improved load response and low emissions.

With the HPCR injection system, injectors are continuously supplied with pressurized fuel, creating superior fuel atomization.

Injectors are electronically operated by an engine control unit (ECU) giving the operator nearly limitless control over fuel quantity, injection timing and multiple injection events per cycle. The system's pilot injection reduces cold start smoke and noise.

Four valves per cylinder design provides increased air flow and allow injectors to be centered in the cylinder for an optimal spray pattern. Stainless steel exhaust port liners control heat rejection to head.

Design your next generator set

Northern Lights generator sets are designed for a wide range of land-based applications. We also offer a comprehensive list of options and accessories to customize your generator set for the task at hand. Your Northern Lights representative can help design a power production system that is ideal for you.

Control panels

Your standard panel can be customized with additional controls, including AC/DC monitoring, ECU controlled manual and autostart panels with up to 16 fault and function lights.



Alarm and shutdown systems

Provide the level of protection your generator set deserves with a comprehensive line of alarms and automatic shutdowns.



Circuit breakers

Protect your investment against surges with custom circuit breakers.

Paralleling switch gear

Seamlessly integrate paralleled sets with a simple to use switch gear.



Heaters and tanks

Jacket water heater, lube oil heaters, day tanks, fuel tanks and dry sump lube oil tanks are available.



Manual or automatic transfer switches

Seamlessly transfer from utility to generator power with a custom transfer switch.

Exhaust muffler system

Clean and quiet your system's exhaust in cabins, lodges or anywhere else the environment is a top priority.



Enclosures

Wherever harsh environments may compromise your generator set, Northern Lights has an enclosure to protect your power source. Options include: arctic environment, sound attenuated, trailer mounted or weather enclosures.



Custom painting

Blend in or stand out; with Northern Lights custom painting for generator set or enclosure, the choice is yours.

Heat recovery systems



Application	NL1066T	NL1066H1	NL1066H2	NL1066H3	NL1066H4
Prime - 60 Hz, 1800 RPM	90 kW	130 kW	145 kW	165 kW	185 kW
Standby - 60 Hz, 1800 RPM	100 kW	140 kW	160 kW	180 kW	200 kW
Lugger Marine Diesel Engine					
Cylinders/Operating cycle	6 inline / 4 cycle	6 inline / 4 cycle	6 inline / 4 cycle	6 inline / 4 cycle	6 inline / 4 cycle
Aspiration	Turbo	Turbo Aftercooled	Turbo Aftercooled	Turbo Aftercooled	Turbo Aftercooled
Displacement - cid (liter)	414 (6.8)	414 (6.8)	414 (6.8)	414 (6.8)	414 (6.8)
Bore - inches (mm)	4.19 (106)	4.19 (106)	4.19 (106)	4.19 (106)	4.19 (106)
Stroke - inches (mm)	5.00 (127)	5.00 (127)	5.00 (127)	5.00 (127)	5.00 (127)
Flywheel housing size	SAE 2	SAE 2	SAE 2	SAE 2	SAE 2
HP @ 1800 RPM - Prime	150	200	228	256	286
HP @ 1800 RPM - Standby	165	220	250	282	314
Cooling System					
Engine coolant capacity - US gal (ltr)	4(11.3)	4(11.3)	4(11.3)	4(11.3)	4(11.3)
Jacket water pump capacity - gpm (lpm)	46(174)	46(174)	46(174)	46(174)	46(174)
Maximum coolant temperature - F(C)	221(105)	221(105)	221(105)	221(105)	221(105)
Heat rejected to coolant, btu/min - Prime	3812	4040	4097	4609	5333
Heat rejected to coolant, btu/min - Standby	4324	4324	4438	4950	5726
Exhaust					
Exhaust gas flow, cfm(m ³ /m) - Prime	851(24.1)	1081(30.6)	1162(32.9)	1306(37.0)	1317(37.3)
Exhaust gas flow, cfm(m ³ /m) - Standby	939(26.6)	1155(32.7)	1264(35.8)	1412(40.0)	1476 (41.8)
Exhaust gas temperature, F(C) - Prime	984(529)	966(519)	968(520)	991(533)	927(497)
Exhaust gas temperature, F(C) - Standby	1040(560)	990(532)	1009(543)	1020(550)	973(523)
Maximum allowable back pressure, in(mm)	30(762)	30(762)	30(762)	30(762)	30(762)
Fuel System					
Fuel Injection	Electronic DE10	Electronic DE10	VP-44	VP-44	High Pressure Common Rail
Approximate fuel consumption, US gal(ltr) - Prime	7.7(29.1)	9.8(37.1)	11.0(41.6)	12.3(46.5)	13.3(50.4)
Approximate fuel consumption, US gal(ltr) - Standby	8.5(32.3)	10.8(40.9)	12.2(46.3)	13.7(51.7)	15.0(56.7)
Minimum suction line size, in	3/8"	3/8"	3/8"	3/8"	3/8"
Minimum return line size, in	3/8"	3/8"	3/8"	3/8"	3/8"
Maximum transfer pump lift from pump in(mm)	39"(990)	39"(990)	39"(990)	39"(990)	39"(990)
Maximum fuel flow to transfer pump GPH	23.5	25.6	49.6	49.6	24.0
DC Electrical System					
DC Starting voltage	12	12	12	12	12
Minimum Battery capacity	800 CCA	800 CCA	800 CCA	800 CCA	800 CCA
Battery cable size	"0"	"0"	"0"	"0"	"0"
AC Electrical System					
Rated ambient air temperature	40c	40c	40c	40c	40c
Rated temperature rise - Prime	105c	105c	105c	105c	105c
Rated temperature rise - Standby	130c	130c	130c	130c	130c
Lubrication System					
Oil pressure at rated speed, psi (kPa)	50(345)	50(345)	50(345)	50(345)	50(345)
Oil pressure shutdown, psi (kPa)	15(103)	15(103)	15(103)	15(103)	15(103)
Lube oil type	CH-4	CH-4	CH-4	CH-4	CH-4
Maximum lube oil temperature, F(C)	241(116)	241(116)	241(116)	241(116)	241(116)
Dimensions and Weight					
Length, inch (mm)	99.3 (2522)	99.3 (2522)	99.3 (2522)	112.7 (2851)	112.7 (2851)
Width, inch (mm)	31.8 (807)	31.8 (807)	31.8 (807)	50.5 (1285)	50.5 (1285)
Height, inch (mm)	73.5 (1867)	73.5 (1867)	73.5 (1867)	66.2(1682)	66.2 (1682)
Approx. set dry weight, lbs (kg)	3092 (1405)	3385 (1539)	3455 (1571)	5330 (2417)	5330 (2417)

NOTES:

Dealer

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