



Marine Alternators



**Certified Alternators for
Reliable Power Generation**

**LEROY-SOMER™
KATO ENGINEERING™**

Nidec
All for dreams



**Over
50
years of
experience**



**Over
8,000
vessels
equipped**



**Certified
by all of
the major
classification
societies**



**Power
range up
to
35 MW**



**Worldwide
on-board
repair &
maintenance
services**



**SOLAS
compliant
range**

Built-in Quality

**SOME PEOPLE NEED TO
BE CHALLENGED TO MEET
EXPECTATIONS.
SOME PEOPLE PERCEIVE
REGULATIONS AS A CONSTRAINT.
NOT US.**

We build quality alternators that are designed to withstand the test of time and extreme conditions. We source the best materials, and craft our designs around reliability and performance. The experience and know-how of our workers is our ultimate guarantee of quality.

The result? Most of our alternators meet marine specifications by design. No alterations are required to comply with some of the world's most demanding rules.

We have an extensive track record demonstrating our commitment to quality and performance. Our alternators supply high-demand commercial and industrial businesses around the globe.

Built to Resist

OUR PRODUCTS ARE DESIGNED AND BUILT TO PROVIDE LONG-LASTING AND RELIABLE PERFORMANCES.



CLASS H INSULATION

OUR ALTERNATORS ARE CLASS H INSULATED, MEANING WE SOURCE TOP-QUALITY MATERIALS FROM TRUSTED SUPPLIERS TO GUARANTEE A PRODUCT WITH SUPERIOR HEAT-RESISTANCE.

The entire rotor-stator system is carefully impregnated with a **special insulating** coating to protect it against dust and wear.

The result: longer life, better performance.

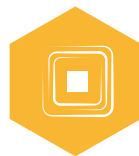


COMPACT DESIGN

SOMETIMES, GAINING A FEW INCHES IS CRITICAL. THIS IS ESPECIALLY TRUE ABOARD VESSELS WHERE SPACE IS LIMITED AND COMPONENTS ARE CRAMMED TOGETHER IN STRATEGIC AREAS.

Our alternators are designed to provide the maximum power with **the minimum footprint**.

Our **patented cooling** and AREP excitation technologies allow us to offer **the most compact alternators** on the market.



ROBUST DESIGN

ABOARD A SHIP, VIBRATIONS ARE THE ENEMY OF ANY ROTATING MACHINE.

In the design phase, our engineering teams analyze the impact of vibrations through **finite element modeling**, and we provide 3D models of our products to help their integration in gensets or on ships.

Internal vibrations are reduced through **antivibration mounts** for sensitive components.



HIGH MOTOR STARTING CAPABILITY

RELIABLE MOTOR STARTING IS A KEY REQUIREMENT FOR MARINE ALTERNATORS, TO ENSURE BOW THRUSTERS, WINCHES AND RUDDERS GET THE POWER THEY NEED, WHEN THEY NEED IT.

Our alternators are **optimized** with **digital regulation** features allowing Soft Start and load impact adjustments, and their electrical and mechanical design allows them to **sustain 300% nominal load for 10 seconds**.



Support & Services

Certified experts, trusted professionals

OUR SUPPORT AND SERVICE TEAMS ARE ISO 9001 AND ISO 14001 CERTIFIED, DEMONSTRATING OUR ONGOING COMMITMENT TO QUALITY.

Our field engineers are cleared to work in specific and hazardous environments, including marine, oil & gas and nuclear facilities.

They all have the qualification and experience to meet your needs.

Our worldwide network also guarantees our capability to respond quickly to any request, taking local regulations and conditions in consideration.

Field service

WE OFFER THE FOLLOWING SERVICES:

- Installation & commissioning
- Re-assembly & rewinding
- On-site inspection & repair
- Maintenance operations
- Diagnostics & optimization
- Vibration analysis

WHAT YOU GET:

- Complete & thorough testing
- Detailed intervention report
- Satisfaction & follow-up



Remanufacturing workshop

We offer turnkey remanufacturing service including on-site removal, transport, and re-commissioning operations.

WE SERVE ALTERNATORS UP TO 35MW AND 80 TONS.

All remanufacturing is performed to precise factory specifications, including balancing and dynamic load tests.



Optimizing Emergency Systems

ON BOARD FLOATING VESSELS, EMERGENCY GENERATORS ARE EXPECTED TO SUPPLY POWER DURING INCIDENTS. WHILE THEY DON'T OPERATE 24/7, THEY HAVE TO BE READY TO COMPENSATE FOR ANY SITUATION, AT ANY MOMENT.

These gensets require specific know-how to reach the right balance between reliability and space optimization.

Using high performance, optimized excitation, enhanced insulation and efficient cooling, our alternators solve this complex equation.

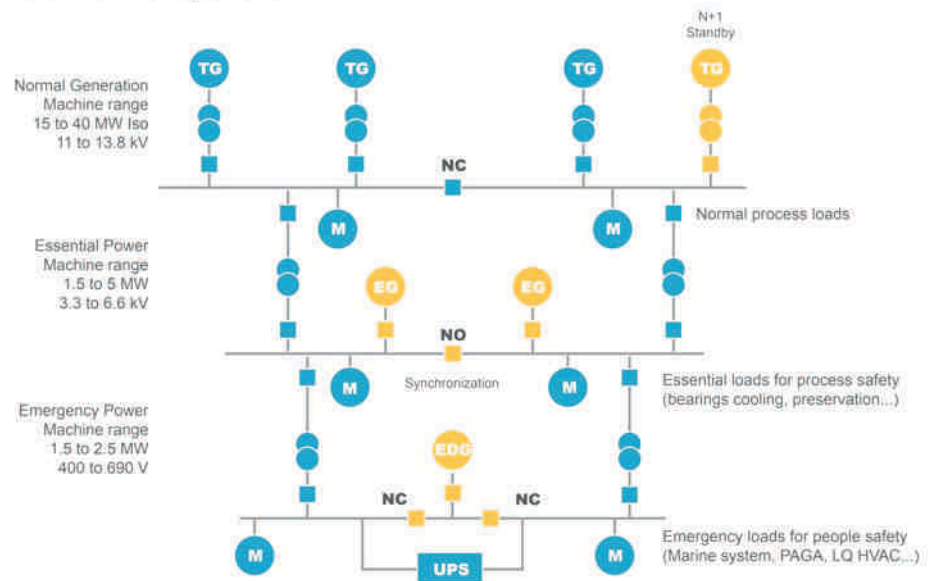
Solutions for offshore oil & gas and offshore windmill emergency platforms

COMBINING THE DEMANDING REGULATION OF MARINE ENVIRONMENTS AND THE SPECIFIC NEEDS OF THE OIL & GAS VERTICAL INDUSTRY, OFFSHORE INSTALLATIONS AND VESSELS ARE THE ULTIMATE TEST FOR EMERGENCY AND SOLAS-COMPLIANT SYSTEMS.

We have been working with key players of the «Oil & Gas» business, from the North Sea, Australia to Mainland U.S. Our expertise encompasses security and productivity considerations, allowing us to deliver on critical specifications such as Atex for explosive environments.

DECISIVE SPACE SAVINGS, PRESERVED RELIABILITY

FPSO Normal operation

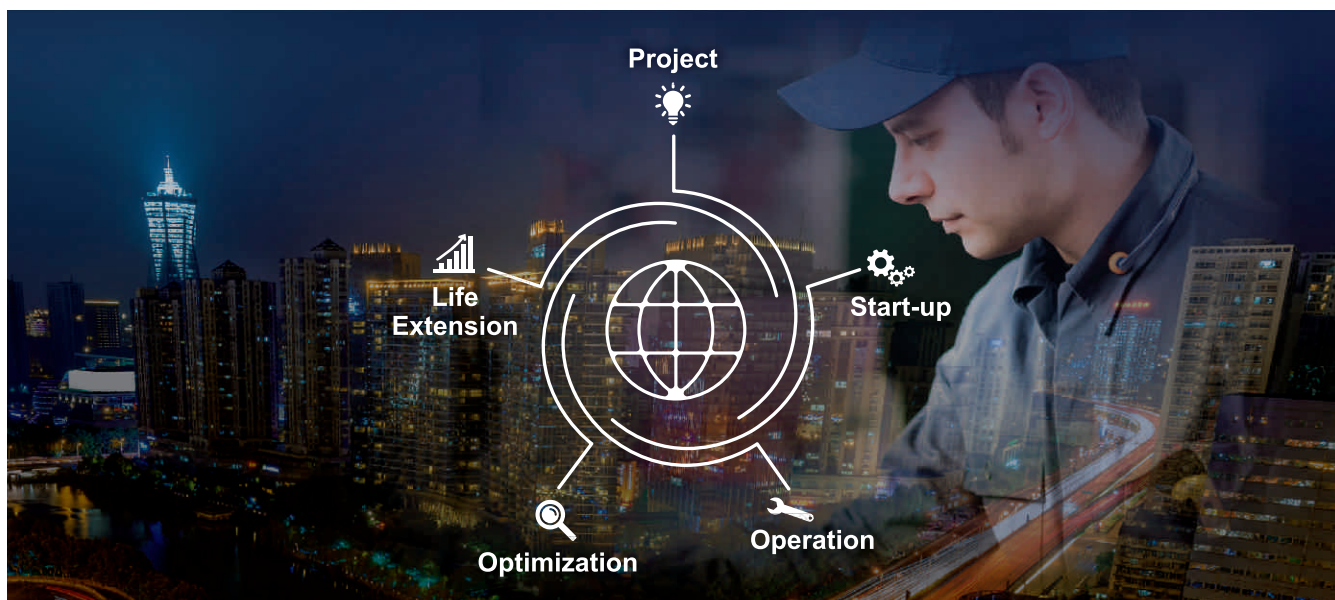


ALTERNATOR SERVICES EXPERTS

Nidec Leroy-Somer offers the best workshop and onsite services for your LEROY-SOMER and KATO ENGINEERING alternators up to 35,000 kVA.

Our engineers are trained to the highest industry standards.

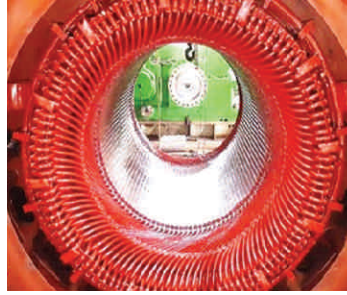
Only genuine spare parts are used, and all our work is conformed to the quality standards to guarantee the performance and availability of your alternators.



On-site Maintenance Type

MT 0	MT 1	MT 2	MT 3	MT 4
INSTALLATION & COMMISSIONING	ELECTRICAL STATIC MAINTENANCE	DYNAMIC MAINTENANCE	MECHANICAL MAINTENANCE	OVERHAUL
<ul style="list-style-type: none"> Wiring check Insulation resistance Phase order check Synchronization control Dynamic tests by load steps AVR setup 	<ul style="list-style-type: none"> Connections check Generator visual inspection Visual inspection of windings Check terminal box conditions Insulation resistance Polarization index <p>Other checks can be made according to the generator type and the specificities of the installation.</p>	<ul style="list-style-type: none"> Vibration level and analysis Temperatures check Electrical parameters check <p>If your generator is monitored by the GenOSys system, MT 2 is not necessary.</p>	<p><i>Antifriction bearings</i></p> <ul style="list-style-type: none"> DE and NDE antifriction bearings replacement <p><i>Sleeve bearings</i></p> <ul style="list-style-type: none"> Shell bearings clearance control and sealing replacement 	<ul style="list-style-type: none"> Complete overhaul including MT 1, MT 2, full cleaning and varnishing
Options	Partial discharges measurement, alignment, installed base management, on-site removal, rental generators, troubleshooting and repairs			

In Workshop Maintenance Type



	MT 5	MT 6	Options
Low voltage	<ul style="list-style-type: none"> Electrical expertise Mechanical expertise: DE and NDE antifriction bearings replacement, or for sleeve bearings, shell bearings clearance control and sealing replacement Dynamic tests 	MT 5 + <ul style="list-style-type: none"> Disassembly Cleaning Varnishing 	<ul style="list-style-type: none"> Stator / Rotor repair or replacement Stator / Rotor new VPI impregnation Semi conductive and conductive paint application
Medium and high voltage	<ul style="list-style-type: none"> Electrical expertise Mechanical expertise: DE and NDE antifriction bearings replacement, or for sleeve bearings, shell bearings clearance control and sealing replacement Cleaning Varnishing Partial discharges and tangent delta measurements Dynamic tests 	MT 5 + <ul style="list-style-type: none"> Inversion of the stator phases VPI impregnation stator 	<ul style="list-style-type: none"> Rotor balancing Shaft and endshield bushing repair On load tests Generator upgrades Generator replacement

D 700



D 550

Digitalization

AVR UPGRADES

- Finer regulation ($\pm 0.25\%$ accuracy)
- Transferrable configuration files
- Parameters visualization
- Programmable digital & analog inputs/outputs
- Supervision with remote monitoring

GENOSYS - FAULT PREDICTION - IoT

- Remote monitoring
- Fault/failure prediction
- Asset management
- Operating cost reduction
- Data recording and reports



Training

We can provide standard training from our catalog or personalized according to your needs, in our or your facilities.

LEROY-SOMERTM
KATO ENGINEERINGTM

www.nidecgenerators.com

Connect with us at:



Nidec
All for dreams

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