Inside

NAVAL EQUIPMENT

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Exxelia supports naval defense programs by supplying a broad range of catalog components as well as custom designs developed for specific mission needs. Our technologies are integrated into military vessels of various classes, including surface ships, frigates, submarines, and aircraft carriers, where they contribute to power management, signal integrity, and onboard electronic reliability.

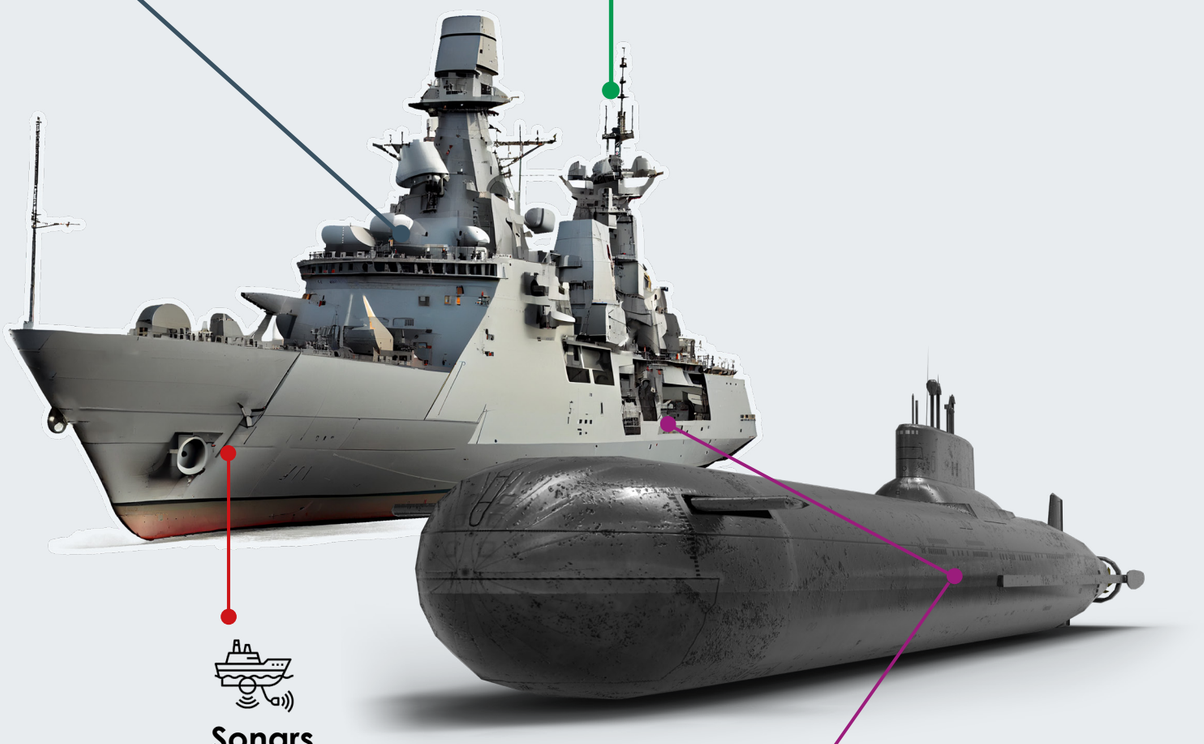
Exxelia provides an extensive selection of electromanical subsystems and passive components specifically designed for naval defense systems.
Our offering includes high-reliability **transformers, inductors, film** and **ceramic capacitors**, as well as **robust slip rings** engineered for harsh maritime environments.
These technologies support key onboard equipment such as sonar arrays, communication and radar antennas, and advanced Electro-Optical Systems, helping ensure stable operation, long-term endurance, and mission readiness across a wide range of naval platforms.

EOS

Exxelia equips naval EOS with capacitors, magnetics and slip rings.

Antenna

Rely on Exxelia slip rings and position sensors to ensure precise positioning, reliable signal transmission and robust performance.

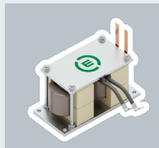


Sonars

Magnetics and capacitors for power management and precise signal conditioning.

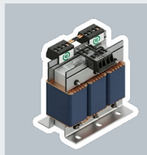
Power supply

Magnetics for efficient energy conversion, high reliability, and long-term performance in the most demanding naval operating conditions. High reliability magnetics for efficient power conversion (up to 60% losses).



High-Frequency Self Inductor

For degaussing systems
Inductance of 240µH
at a current of 12.5A
Cold Plate Cooling



Custom Isolated Transformer

Low-Frequency transformer for measuring chains
Frequency 60Hz
with a power of 30VA

Compact Integrated Solutions

Slip Ring + Encoder + FORJ
Higher integration
Turnkey solution
Fully customizable

Slip ring + FORJ

Higher integration
Turnkey solution
Fiber optic

HEMP protection filter

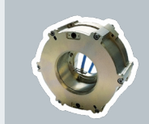
compliant with MIL-STD-188-125
Single or 3-phase (+ N)
Voltage: 250-440 VAC
Current: up to 1250 A
Max Attenuation: up to 80dB
above 100kHz

SMPS Flyback transformers

SESI technology
Frequency: 25kHz
Power: 20kW
Temp: -55°C ~ 85°C

Optical Rotary Encoders

Very low profile
Accuracy: ± 40 arc sec
Shocks: 50g.acc
Temp: -45°C ~ 115°C



L-Band Rotary Joints

Integrated Solutions for EOS (Electro Optical Systems)
Bandwith >1Ghz
Contactless technology

Very high temp bus bar

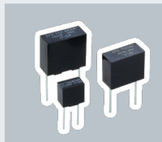
Up to 180°C operating temperature
AS9100 Voltage DC: 350V
Current: 660A
AS9100 / Conductor: Copper

Power Inductors

Set of C-Core inductors for Towed Sonar
Frequency: 800Hz ~ 2500Hz
Inductance: 1mH ~ 4mH
Temp: 240°C

Nanocristallin Toroids

High Voltage transformers
up to 20 KV for rated voltage
Frequency: 5.5kHz
Temp: 200°C
Relative humidity 100%



High voltage Ceramic Capacitors

TCK Series
C4XX dielectric (-2 200 ± 500)ppm/°C
Voltage: 200V ~ 10kV
Capacitance: 10pF ~ 39µF

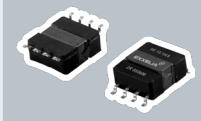
Powering Performance

Exxelia is valued for its ability to develop standard and custom products complying with the most demanding qualifications.

Contact us **www.exxelia.com/en/contact**

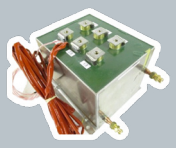
Aluminum Electrolytic Capacitors

Capacitance: 100µF ~ 150000µF
Voltage DC: 10V ~ 400V
Tolerance: ±50%
Operating Temp: -55°C ~ 85°C



Current & voltage sense

Transformers 10A to 17Apk
Frequency: 6kHz ~ 500kHz
Accuracy: 2%, 5%, 10%
Operating Temp: -55°C ~ 125°C

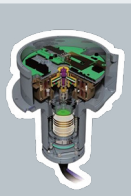


Power Inductors

Power up to 300kVA
Low & High frequency, 50Hz - 500 KHz
Current: 220A
Inductance: 160µH
Operating Temp: 75°C

Power Inductor C Cores Assemblies

Potting & Tropicalization
Inductance: 600µH ~ 3mH
Frequency: 50Hz ~ 500Hz
Operating Temp: 240°C



Slip Ring + encoder FORJ + RF-RJ

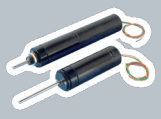
PLUG & PLAY SOLUTIONS
For High power data transmission

HF Transformer Shaped Ferrite assembly

SMPS - Improvement to resistance to partial discharges
Frequency: 40kHz
Operating Temp: Up to 240°C

Aluminum Electrolytic Capacitors

Voltage DC: 10V ~ 450V
Capacitance: 1µF ~ 25000µF
Tolerance: ±50%
Operating Temp: -55°C ~ 125°C

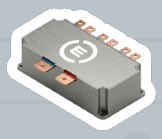


Precision Potentiometers

Electrical travel from 10 to 100mm
Mounting: Servo, Bushing
Length: 126mm
Vibrations: 20g.acc

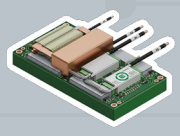
Slip Rings Compact Dimension

for High speed data transfer & Electro-Optical Surveillance Systems
Diameter: 20mm



CF-PP140 Capacitors with bus bar

Voltage: 450V to 1500V
Temperature up to 140° C
+30% energy density
Up to 250 J/l



Self + Transformer assembly

For naval reactors
Frequency: 25kHz
Power: 20kW
Inductance: 35µH

TEMPEST data line feedthrough filter

Configuration: 2 or 4 pairs
Voltage: up to 600 VDC
Current: up to 3 A
Max Attenuation: up to100 dB above 20 kHz

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