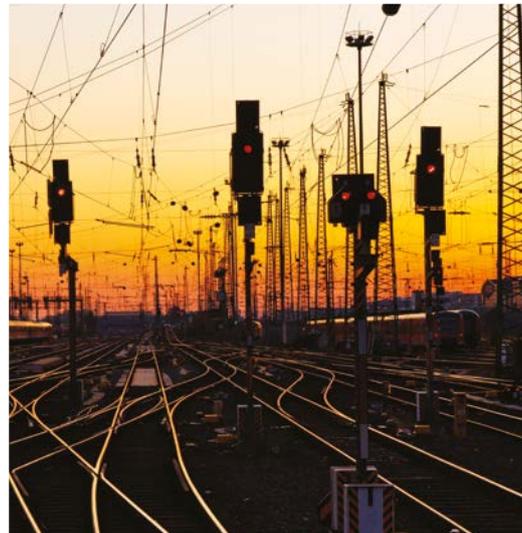


Power Applications Selection Guide



Rail & Mass Transportation



FELSIC HV

160 - 450 V_{DC}
1 500 μ F - 47 000 μ F
200,000h @ 70°C
-55°C +105°C



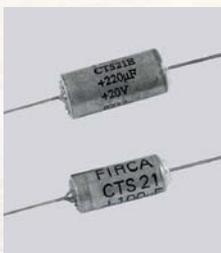
SNAPSIC HV

16 - 500 V_{DC}
47 μ F - 2 200 μ F
-55°C +105°C
8 000h @105°C



ROTARY WIREWOUND POTENTIOMETER

Resistance 1000 Ω \pm 10%
Linearity \pm 0.5%
Power Rating 6W
-55°C +125°C
Vibrations CEI 61373



CTS 21

Solid tantalum capacitors

Hermetic metal cases
6.3 - 50 V_{DC}
5.6 μ F - 330 μ F
-55°C +125°C

As a recognized worldwide market leader in the design and manufacture of components for severe environments Exxelia has developed several dedicated product series for the railway market.

Exxelia's wide selection of products for rolling stock are commonly used on high-speed trains, subways and tramways around the world and service all functions of the train, from powering the passenger cabin to the traction inverter.

Performance, lifetime, reliability and resistance to extreme mechanical environments are the key criteria guiding the development of these products.



DUAL TRANSFORMER

Ventilation channel - 2 x 125 kV_A
125kW - 4 kHz
500V / 940V
1132 x 348 x 500 mm
Weight 190kg



WRFT 4 Series

Wide Band RF Transformer
Impedance ratio 50:50
Bandwidth 0.35 - 200MHz
1dB: 2-50
Weight 1g

TYPICAL APPLICATIONS

- CVS, HVAC
- Cockpit electronics
- Automation and safety control
- Traction and auxiliary inverters
- Train detection
- Pantograph
- Break and speed handles
- Relays

ON-BOARD

- High-speed trains: French TGV, German ICE, Korean KTX
- Subways: Hong-Kong, London, Hyderabad and many more



TFPP TRANSFORMER

Frequency 50hz
Primary 100V
Secondary 5V
Weight 0.43kg
Norm. UL94V0



STANDARD MAGNETICS

Inductors & Transformers

Toroid, PQ32/30 package
Powder core, Ferrite core,
Tape wound core available



PP series

Metallized PP

300 - 4 000 V_{DC} / 120 - 2 000V_{AC}
0.1 μ F - 300 μ F
-40°C +100°C
Flame retardant resin



PLP Series

PP / Paper

160 - 10 000 V_{DC}
75 - 3 600V_{AC}
22nF - 30 μ F

Rail & Mass Transportation



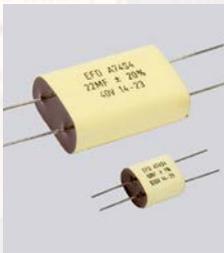
SNAPSIC 125

16 - 100 V_{DC}
470 μF - 47 000 μF
-55°C +125°C
32 000h @105°C



PRORELSIC 125

10 - 450 V_{DC}
470 μF - 47 000 μF
-55°C +125°C
20 000h @105°C



A74 S4

Polyphenylene sulfide

Safety Capacitor
40 - 100 V_{DC}
1nF - 33 μF

For more than 50 years, Exxelia has become a trusted name by major railway equipment manufacturers as well as signaling and infrastructure companies.

Signaling is often related to safety and Exxelia's capacitors and magnetics products are designed to offer the best compromise between technology, safety, reliability and cost. They can be found at key functions such as switch controls, cross-roads and train detection systems.



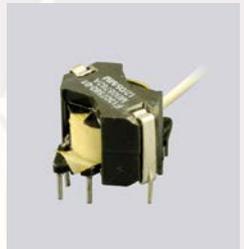
SENSING COILS

Ruggedized packaging
High-precision detection



TUNABLE INDUCTOR

Precise tuning over temperature
Pot core Shielding





CH/SH Series

HiQ Ceramic Capacitors

P100 & NPO dielectrics
25 - 1 500 V_{DC}
0.1pF - 1 000pF

TYPICAL APPLICATIONS

- Track Communications
- Train Positioning Sensing
- Train Detection Beacons
- Cross-roads
- Switch Controls
- Safety systems
- Anomaly detection
- Relays



30 S4 Series

Class 1 & 2 dielectrics

Safety capacitors
40 - 100 V_{DC}
470pF - 560nF



FP Series

EMI-RFI Filters

50 - 1 000 V_{DC} 50 - 115V_{RMS}
Max current 0.1 - 15A
IL @50Ω 0.5 - 100dB
Glass or resin sealed



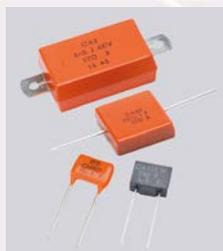
AUDIO-FREQUENCY TRACK CIRCUIT

Self 63,6μH - 48A 3kHz
Selves 2.5mH,
Format RM5 64μH
Transformer V_{prim} 0.2V - 2kHz

STANDARD MAGNETICS

Inductors & Transformers

RM, ETD, EQ, ER, EP package
-40°C + 100°C



CA Series

Silver coated mica

63 - 5 000 V_{DC}
4.7pF - 100nF

Aerospace & Defense



C48X series

Fast charge/discharge

dV/dt up to 5kV/ μ s
200 - 5000V
22pF - 56 μ F



WT 83 Series

High energy density

More than 5 times the
capacitance of CLR81
1 000 μ F @ 75V
Vibrations 50g / Shock 100g



3-PHASE POWER SUPPLIES CAPACITOR

Up to 600V
Up to 15 μ F
Up to 105°C

Exxelia has a long heritage in the supply of aerospace and defense power solutions. Most of the solutions are available in space qualified versions. The group has gained a strong recognition in the design of custom products according to electrical, mechanical and environmental requirements.

Thus Exxelia can adapt a widely used technology according to specific technical requirements, giving no reason for compromise.



DC LINK CAPACITOR

100V - 1000V
Up to 500 μ F
Up to 105°C



HIGH VOLTAGE BLOCKS

Up to 25 capacitors into one

630V - 100kV
Up to 30 μ F



Aircraft - Satellite - Radar

GROUND POWER INDUCTOR

70 μ H - 200A @ 400Hz
Ripple 20A @ 10kHz
CuFoil winding, AMCC core
50x150x200mm - 24kg



CCM Series

Inductors, transformers

30% more power density
2x6 to 2x10 outputs

TYPICAL APPLICATIONS

- Engine Controls
- TRU, Actuators power supplies
- Landing Gear, Flight Control
- Electrical Thrust Reverser
- Cabin Lighting
- Satellite bus
- Rotary Systems
- Military grade power supplies
- Ignition systems and radars
- Ground vehicles, shelters

ON-BOARD

- Airbus A320 family, A380, A350
- Boeing B737, B777, B787
- Bombardier C-series
- Rafale, F35, F18
- Typhoon, Apache

POWER SLIP RINGS

Up to 2000A
Up to 10kV



PIF Series

HEMP Protection Filters

2 or 4 lines per tube
MIL 188 125 1&2 Qualified



SESI Series

SMD Power Inductors

Low profile
Good thermal dissipation



CUBISIC LP

High Energy density for Aerospace

Compact
10V - 400V
Up to 68 000 μ F
Vibrations up to 20g



VACSIC & VACSIC 150

145°C and 45g

10V - 450V
Up to 6 800 μ F

Industry



INPUT TRANSFORMER

6kV_{AC} @ 50Hz
Flat wires, tape-Wound E-Core
Uninterruptable Power Supply
Xfmr
420 x 220 x 335 mm - 12kg



TRANSFORMER

23kV_{AC} @ 50Hz
P: 400V - S: 4.3V / 18 000 A
Cu Bar Windingsm SiFe Lamination
310 x 130 x 140 mm - 20kg



TRANSFORMER Class F

Liquid Cooling
2x75kV_{AC} @ 18Hz
Primary 560-678 Veff.



TRANSFORMER 20kW

100kHz
Litz wires



STACKED CAPACITORS

High Capacitance
Surface or through-hole
DIL connections
Capacitance: up to 180 μ F

Exxelia leverages the know-how gained in high-reliability applications and adjusts it to demanding industrial applications so that these products still show excellent reliability and longevity while being cost-effectively produced in mid to high volumes.

The portfolio shows a whole range of standard series as well as custom designs or build-to-print platforms.

Energies - Automation & Machines



FELSIC HV

160 - 450 V_{DC}
1 500 μF - 47 000 μF
200,000h @ 70°C
-55°C +105°C



PM 98 - PM 980

300 - 1 200 V_{DC}
40 - 250V_{AC}
25 μF - 1 600 μF
-55°C +85°C

TYPICAL APPLICATIONS

- Wind Turbines
- Utility scale solar inverters
- Heavy duty industrial machines
(welding, coating...)
- Drilling tools
- Power monitoring
- On-shore & off-shore seismic acquisition
- Nuclear controls



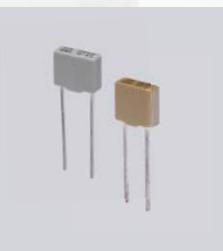
SNAPSIC CAPAX

16 - 100 V_{DC}
33 μF - 47 000 μF
-55°C +105°C
10 000h @ 85°C



FELSIC CAPAX

10 - 500 V_{DC}
100 μF - 2 200 000 μF
15 000h @ 85°C
-55°C +85°C



HIGH TEMPERATURE

Chips and Stacks up to 250°C

Stacks available for
higher capacitance
Voltage: up to 3kV

Exxelia

Presentation

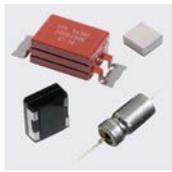
Exxelia is a global designer and manufacturer of **high-reliability passive components** and **electromechanical solutions**. Exxelia was born in 2009 from the merge of several long-established companies with complementary activities and know-hows.

This powerful alliance of expertise enables the Group to provide a **unique and complete product portfolio** commonly used for power electronics, power generation, energy storage, and signal filtering functions in **harsh environments**.

Expanding product portfolio



Film & Electrolytic Capacitors



Ceramic & Tantalum Capacitors



Magnetics



RF & Microwave Components



EMI/EMC Filters



Position Sensors & Slip Rings



Precision Mechanics

From standard to custom designs

Exxelia has earned international recognition in designing and manufacturing custom passive components that deliver the required performance for any application. As a high-end supplier, Exxelia is involved in most major programs in space, defense and civil aviation industries.

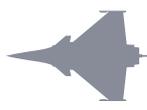
7 Markets



Civil aviation



Space



Defense



Transport & Energy



Telecom



Medical



Industry

10 Companies, 1 Brand

Eurofarad	Exxelia Technologies
Microspire	Exxelia Magnetics
N'Ergy	Exxelia Magnetics
Firadec	Exxelia Tantalum
Sic-Safco	Exxelia Sic Safco
Temex Ceramics	Exxelia Temex
Astema	Exxelia Maroc
Dearborn	Exxelia Dearborn
Raf Tabtronics	Exxelia Raf Tabtronics
DeYoung Mfg	Exxelia DeYoung



is now

Exxelia at a glance

1600 
Employees

ISO 9001
EN 9100
AS 9100
Certified 

13 
Manufacturing
Locations

 In more than
30 countries

Expertise
since **1921**

1 
Stop Shopping

Exxelia worldwide

Exxelia is a global company with manufacturing sites strategically located to cover every continent. Three assembly plants are established in competitive manufacturing countries, enabling the group to provide cost-effective solutions. Thanks to

an extensive sales network covering more than 30 countries, Exxelia is able to provide prompt in-depth technical expertise throughout a project and remain close to its clients at all stages from design to production.

Our approach

Exxelia focuses its know-how on challenging markets that require high level of technicity and reliability. Our approach is based on three key principles:

FOCUS: serving a limited number of defined markets to deeply understand the needs of those markets.

INNOVATION: Provide new and creative value propositions combining the right products with the expected level of service.

RESPONSIVENESS: Anticipate the markets' needs and respond very quickly.





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