

NETWORK TRANSFORMERS



ERMCO / Pioneer manufactures Network Transformers from 500 kVA to 5 MVA, engineered for vault-type and subway-type applications in dense urban environments. Each unit is designed for exceptional reliability, long service life, and compliance with the latest IEEE C57.12.40, DOE 2016/2029, and CSA C199 standards.

CORE & COIL DESIGN

- Grain-Oriented Electrical Steel (GOES) or Amorphous core options.
- Full-width strip-foil LV windings for mechanical strength and reduced axial forces.
- Balanced HV windings wound directly over LV coils to minimize axial stress.
- Amorphous epoxy-bonded coils formed into solid, rigid structures.
- Fully braced assembly to withstand severe short-circuit forces.

TANK CONSTRUCTION

- Copper-bearing steel tank ($\geq 0.20\%$ Cu) for enhanced corrosion resistance.
- Grid-blasted, zinc-primed, epoxy-polyamide coating (≥ 7 mils DFT).
- Minimum 7 psig pressure rating for underground network environments.

SWITCHGEAR & SAFETY

- Three-pole, three-position HV switch
- Optional Mag-Break® mechanism for rapid fault interruption.
- Fully IEEE-compliant safety interlocks
- Robust, stainless-steel switch handles and hardware.



For additional information, contact your Strategic Account Manager.

NETWORK PROTECTORS

- Prevent reverse power flow from secondary to primary.
- Automatically isolates transformer during faults or abnormal conditions.
- Restores power when system conditions return to normal.
- Enables safe, reliable operation in dense urban network systems.

CABLE TERMINATIONS

- Dedicated HV compartment with clear physical separation.
- Supports stuffing boxes, potheads, or apparatus bushings.
- Flexible configuration for a wide range of urban installations.

FEATURES & BENEFITS

- High reliability for underground network distribution.
- Compact footprint for constrained vault spaces
- Superior mechanical strength for demanding short-circuit environments.
- Coating system engineered for long-term corrosion protection.
- Configurable for utility-specific network protector systems.

TYPICAL APPLICATIONS

- Dense metropolitan distribution systems.
- Underground vaults and subway transformer rooms.
- Commercial districts with high load density.
- Network grids requiring redundancy and back-feeding capability.

TESTING & QUALITY ASSURANCE

ERMCO's Power Test Cell performs all routine production testing required for Network Transformers to ensure reliability, safety, and performance in demanding underground network applications.

Routine Tests

- Ratio (TTR)
- Winding Resistance
- Load Loss & Impedance
- No-Load Loss
- Excitation Current
- Insulation Test
- Dissipation Factor (DF/Tan Delta)
- Capacitance
- Applied Voltage
- Induced Voltage
- Partial Discharge
- Interlock & Safety Verification

Additional Tests (When Required)

- Sound Level
- Temperature Rise
- Impulse/BIL Test

Routine and optional tests ensure long-term reliability in demanding network applications.

TECHNICAL SPECIFICATIONS

Specification	Details
kVA Rating	500 kVA to 5MVA
Frequency	50 Hz/60Hz
Primary Voltage	Up to 34.5 kV
Secondary Voltage	Up to 4.16 kV
Configuration	Vault-type or Subway-type
Insulating Fluids	Mineral Oil, FR3, Midel 1204, Midel 7131
Standards	IEE C57.12.40, DOE 2016/2029, CSA C199, ISO 9001



PIONEER TRANSFORMERS

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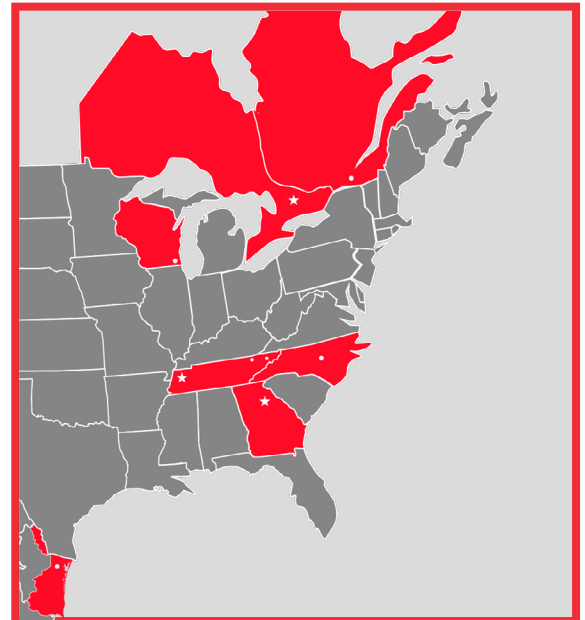


ERMCO
TRANSFORMATEURS PIONEER
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**Engineered
for Reliability.
Manufactured
for Powerful
Performance**

ERMCO Enterprise Location Map



Need help choosing the right transformer?
Visit our website to explore our interactive map and connect with a strategic account manager in your state.

<https://www.ermco-eci.com/contact-us/>