



PROFESSIONAL TRAINING OF LINEMAN – TRANSFORMER TRAINER

Hands-on Transformer Training for Real-World Power Distribution.
Made for North American Energy Utilities.

HANDS-ON TRANSFORMER TRAINING

Train real transformer configurations used in the North American distribution system.

In power engineering, transformers are used to connect different voltage levels within the power grid. At utility poles, electricity from regional distribution networks (4.6 kV to 33 kV) is transformed for end customers into low-voltage supply (single-phase 120/240 V or three-phase 208 V). Working at these voltage levels is life-threatening. Safe handling of electrical equipment must be learned to avoid endangering yourself and others.

The **Transformer Trainer** provides practical, real-world training to build the necessary knowledge and hands-on skills for safe transformer operation and installation. Train real transformer configurations used in North American distribution systems. Understand how transformers are connected, what different configurations do, and how to safely test and analyze them.



Training Content

- Safety rules, setup, and configuration of transformers
- Commissioning and testing of single-phase transformers
- Overhead transformer standards
- Terminal markings: H and X
- Polarity check, ratio test, and determination of polarity
- Measuring the turns ratio
- Operating behavior, losses, and behavior under load
- Open-circuit and short-circuit tests
- Copper losses and no-load current
- Single-phase, split-phase three-wire, and three-phase systems
- Generation of 208 V three-phase and 120/240 V single-phase supply
- Installation of three-phase power transformer banks
- Business park connection and transformer bank configuration
- Wiring and operation of common transformer bank configurations:
 - Wye-Wye / Y-Y
 - Wye-Delta
 - Delta-Wye / Delta-Y
 - Delta-Delta
- Wye-Wye fundamentals, wiring, unbalanced loads, and neutral behavior
- Delta-Wye configuration and phasor diagram analysis
- Grounding concepts and special delta systems:
 - Floating Delta
 - Corner-grounded Delta
 - Four-wire Delta (wild leg systems)
- Measurement of voltages under normal and fault conditions, including single phasing
- Troubleshooting in three-phase transformer banks
- Common fault patterns and fault diagnosis, including incorrect polarity



Training Topics

- Safety rules and setup
- Transformer wiring (Wye / Delta)
- Single-phase & three-phase systems
- Transformer bank configurations
- Voltage measurement & analysis
- Real-world fault scenarios
- Safe handling under operational conditions

Key Features

- Based on IEEE / ANSI standards (C57.12.70)
- Hands-on training with real equipment (not simulation only)
- Realistic wiring, configuration, and measurement tasks
- Simultaneous primary and secondary voltage monitoring
- Modular and expandable system (RLC loads, renewables, and more)
- Safe laboratory training environment
- Commercially available power transformer tester (optional)

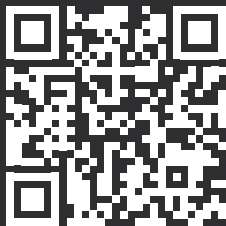
WHY TRANSFORMER TRAINING MATTERS

Understanding transformer operation is essential for safe and reliable power distribution. The **Transformer Trainer** develops both theoretical understanding and practical decision-making skills needed in real field applications.

TRAIN SAFER. WORK SMARTER. RESTORE POWER FASTER.

Give your team the skills they actually need before they step onto the grid.

Upgrade your lineman training today!



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REAL EXPERIENCE **LEARNING**



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