



Single-Phase  
Transformers  
KOD121590

Effective August 2023

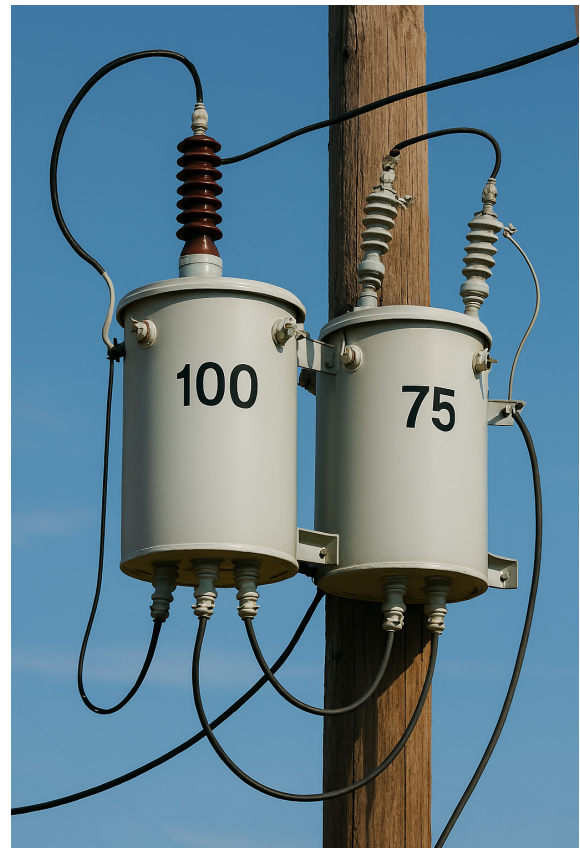
4108 Sherwood Dr. Hutchinson,  
KS 67502

# Single-phase overhead transformers



## General Overview

Our manufacturing partner produces a full line of single-phase overhead-type distribution transformers at their facility Paola, KS. Units are available in both conventional (5-167 kVA) and completely self-protected configurations, exceeding applicable ANSI® and NEMA® standards. Models designed to meet Rural Utilities Service (RUS) specifications are also offered, with optional surge arresters available based on project requirements.





Catalog Data  
KOD121590  
Effective August 2023

## Single-phase overhead transformers

### Standard features

- Meet or exceeds ANSI® and NEMA® standards
- Meets DOE Energy Efficiency Standard 10 CFR Part 431 for distribution transformers
- EPRI recommended interlaced core-type design (5-75 kVA)
- Tank coating exceeds IEEE Std C57.12.31™-2010 standard
- Cover with a minimum dielectric strength of 8 kV
- Tin-plated high and low-voltage bushing terminals to accommodate aluminum or copper conductors
- Laser-engraved nameplate
- Wet process porcelain high-voltage bushings resistant to high-voltage corona
- Tank grounding provisions
- Envirotemp™ FR3™ fluid or electrical grade mineral oil
- Heavy-duty lifting lugs and hanger brackets per ANSI® requirements<sup>1</sup>
- Visible cover ground on units with cover-mounted bushings
- Recessed tank bottom that offers protection when sliding over rough surfaces
- Automatic pressure relief device
- Polymer low-voltage bushings (5-75 kVA)
- Arrester mounting and grounding provisions
- Internal mark indicating the proper oil level
- Permanently stamped secondary leads to ensure proper identification
- Corrosion-resistant cover band

### Optional accessories

- Taps either two 2.5 % above and below; four 2.5% below;
- NEMA® taps or special taps
- Multiple voltage primaries (5-75kVA)
- Externally-operable multiple voltage switches for safe operation
- High corrosion area protection with 304 or 409 stainless steel hardware and tanks
- Birdguards
- Envirotemp™ FR3™ fluid where less-flammable fluid is required.
- Superior environmental characteristics are desired
- Cover with a minimum dielectric strength of 15 kV
- Extra creep high voltage bushings (up to 150 kV BIL)
- Porcelain low-voltage bushings
- Special designs conforming to international specifications.
- Drain/sampling valve
- Pressure vacuum gauge (tank size limitations apply)
- Filter press connections
- Temperature gauge (tank size limitations apply)
- Liquid level gauge (tank size limitations apply)
- High efficiency transformers at 0.05% or higher above DOE efficiency

## Single-phase overhead transformers

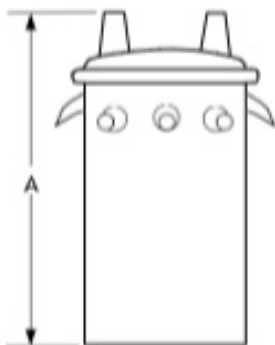
### Single-phase overhead conventional

Product Scope:

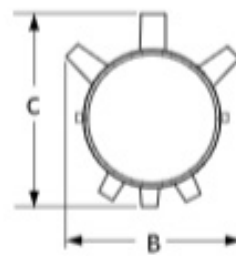
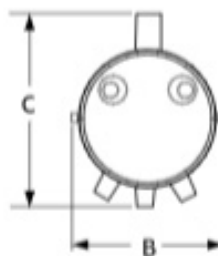
kVA: 5-167

Primary Voltage: 2,400-19,920 V

Secondary Voltage: 120-600 V



≥95 kV BIL



≤75 kV BIL<sub>1</sub>

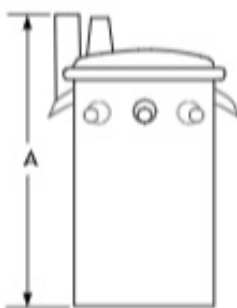
### Single-phase overhead completely self protected (CSP)

Product Scope:

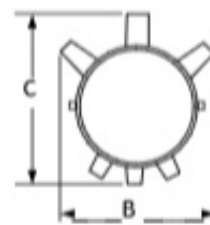
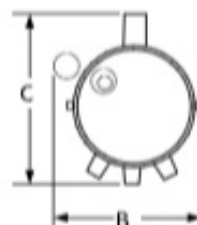
kVA: 5-75

Primary Voltage: 2,400-19,920 V

Secondary Voltage: 120-600 V



≥95 kV BIL



≤75 kV BIL<sub>1</sub>

<sup>1</sup> Lugs and brackets per ANSI requirements up to 4500 lbs.



## Catalog Data

KOD121590

Effective August 2023

## Single-phase overhead transformers

### Protection options

- High fire point Envirotemp™ FR3™ fluid for increased fire safety
- Secondary breaker with weak link for secondary fault and overload protection (5-75 kVA)
- Primary weak link fuse
- Current-limiting fuse for high interrupting ratings and limiting fault currents
- Low-voltage distribution class MOV arrester – internally or externally mounted
- Lightning arresters for primary over-voltage protection: direct connected, normal or heavy duty metal oxide varistor (MOV) either internal (VariSTAR®), or external UltraSIL Polymer-Housed Evolution or UltraSIL Polymer-Housed VariSTAR arrester with polymer housing.

### Quality control

Single-phase overhead-type transformers are engineered to deliver exceptional performance, passing ANSI®-prescribed tests prior to shipment. Cores and coils are designed for high reliability and minimal field failure rates.

A domed cover paired with a formed band enhances pressure resistance, eliminates bushing overhang, and improves cover retention. The high-voltage bushing design strengthens gasket protection and sealing, while the low-voltage polymer bushing features a UV-resistant, compression-limiting design that virtually eliminates deterioration.

Transformers are manufactured with corrosion resistance in mind. Welded external components are carefully treated to prevent moisture entrapment, and feature like recessed bottoms and stainless-steel band ends offer added protection in high-wear areas. All coating systems exceed IEEE STD C57.12.31™-2010 requirements for durability and environmental resilience.

### Fluid options

Transformers can be filled with standard electrical-grade mineral insulating oil, Envirotemp™ FR3™, or other approved dielectric coolants. For fire-sensitive environments, Envirotemp™ FR3™-a natural ester-based, fire-resistant fluid-is recommended. In addition to enhanced fire safety, FR3™ offers sustainable, soy-based properties with unique environmental and material advantages over conventional mineral oil.

For fluid selection guidance and pricing, please contact your sales representative.

