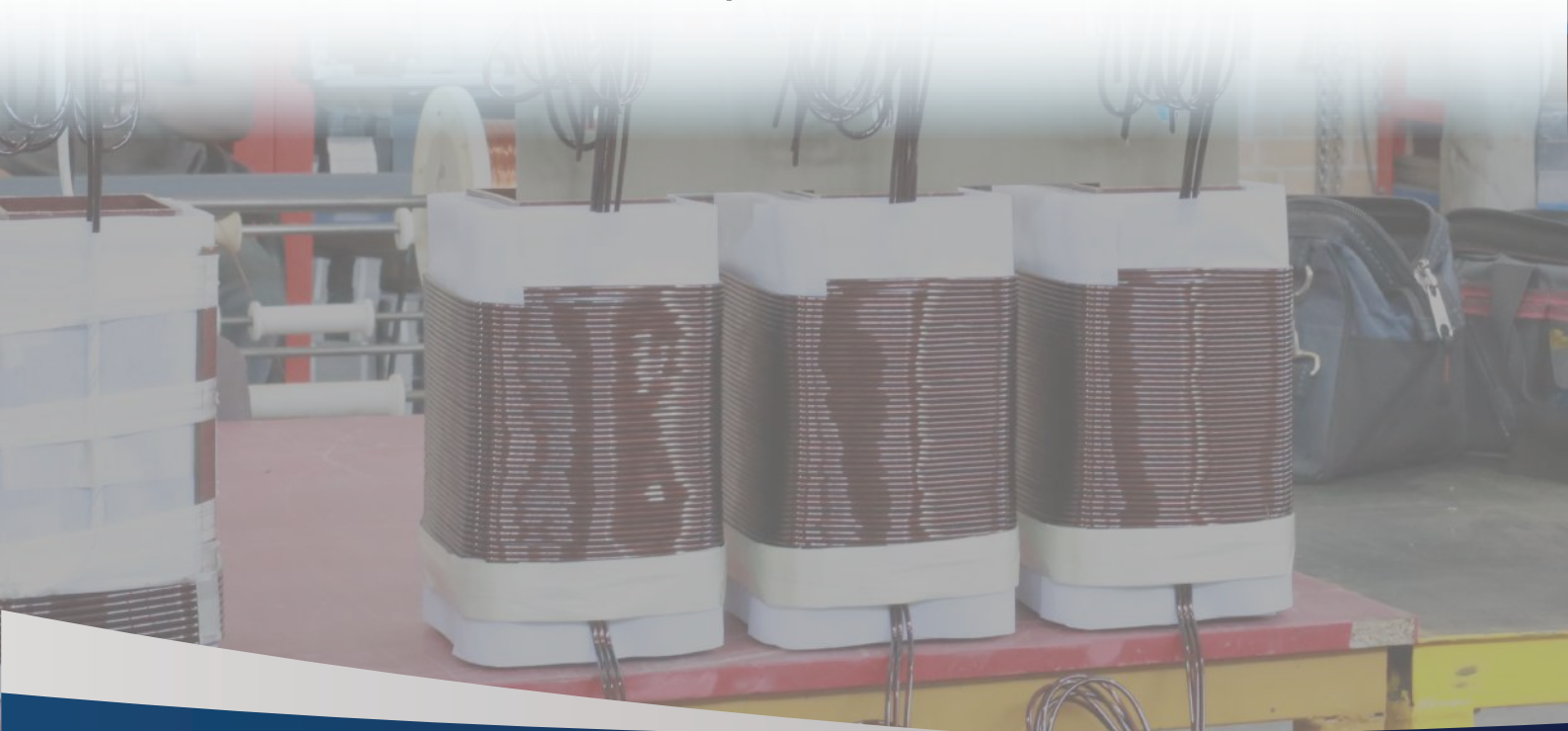


ATSYS POWER TRANSFORMER

ATSYS specialized in manufacturing single-phase electric transformers from 500VA to 150kVA, three-phase transformers from 500VA to 150kVA, for applications in different fields from industrial devices ,three-phase auto-transformers and three-phase reactors.



► Single phase transformers

Rated input voltage: 50v ~ 400v or others upon requests

Rated output voltage: 12v ~ 400v or others upon requests

Rated power: 0.5KVA~150KVA

Rated frequency: 50Hz

Insulation class: class F

Temperature class: class B

Ambient temperature: $T_a=40^{\circ}\text{c}$

Protection degree: IP00 – class I



► Applications:

Isolating transformer with secondary voltage $> 50\text{ V}$

Safety transformer with secondary voltage $< 50\text{ V}$

They are suitable for any industrial/civil use for the electrical isolation of the input and output sides.

Construction in accordance with the following standards:

- IEC 60076

▶ Three phase transformers

Rated input voltage: 400v or other upon request

Rated output voltage: 400~20v or other upon request

Rated power: 0.5KVA~150KVA

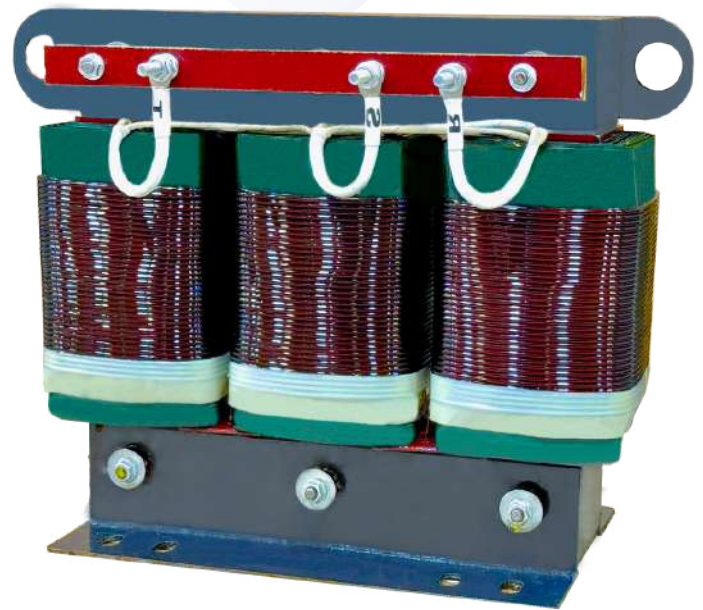
Rated frequency: 50Hz

Insulation class: class F

Temperature class: class B

Ambient temperature: $T_a=40^{\circ}\text{C}$

Protection degree: IP00 – class I



▶ Features and Benefits

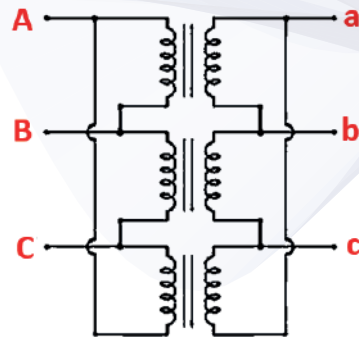
High Efficiency: Reduces energy losses, leading to cost savings and environmental benefits.

Reliable Power Supply: Ensures continuous and stable power delivery, critical for industrial and commercial applications.

Versatility: Suitable for a wide range of applications, from power generation plants to commercial buildings and industrial facilities.

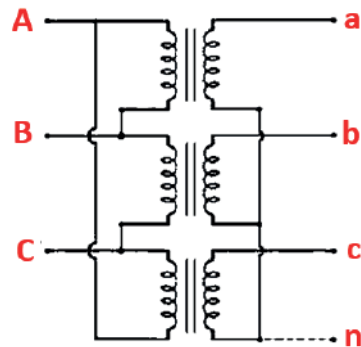
► **Type of windings for 3Ph to 3Ph transformers:**

Primary winding: Delta (Δ)
 Secondary winding: Delta (Δ)



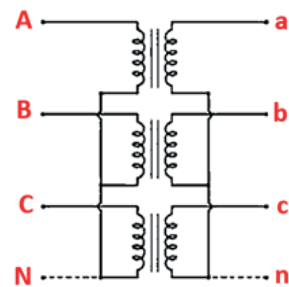
Δ - Δ connection

Primary winding: Delta (Δ)
 Secondary winding: Star (Y)



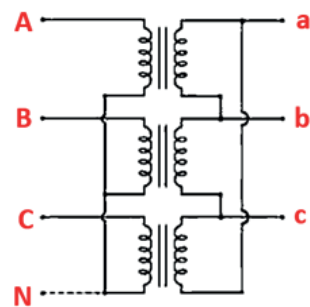
Δ -Y connection

Primary winding: Delta (Y)
 Secondary winding: Star (Y)



Y-Y connection

Primary winding: Delta (Δ)
 Secondary winding: Star (Y)



Y- Δ connection

▶ Type of windings for 3Ph to 6Ph transformers:

Primary winding: Delta (Δ)
Secondary winding: Star (Y- Δ)

Primary winding: Delta (Y)
Secondary winding: Star (Y- Δ)

▶ Applications:

Three-phase transformers suitable for any industrial application where it is required the separation between the load and the net. Construction in accordance with the following standards:

- CEI-EN 61558; p. 4-2 – Isolating transformers
- CEI-EN 61558; p. 6-2 – Safety transformers
- IEC 6-2 ;4-2 ;61558
- IEC 60076

Upon request:

The transformers could be customized with:

- different voltages
- regulations
- taps on primary or secondary
- different enclosures
- wheels for movement

▶ Power Inductors for Rectifiers and Inverters

Introduction

Power inductors are crucial components in rectifiers and inverters, playing a vital role in managing and stabilizing electrical currents in power conversion systems. These inductors are designed to handle high current levels and maintain efficiency and reliability in various power electronics applications.

Basic Principles

Inductance: Inductors store energy in a magnetic field when electrical current flows through them. The inductance value, measured in henries (H), determines how much energy can be stored.

Current Handling: Power inductors are designed to handle high current levels without saturating. They provide smooth and continuous current flow, essential for rectifiers and inverters.

► Applications in Rectifiers and Inverters

Technical Specifications

Inductance Value: Typically ranges from microhenries (μH) to millihenries (mH) depending on the application requirements.

Current Rating: Indicates the maximum current the inductor can handle without saturating. This can range from a few amperes to several hundred amperes.

Saturation Current: The current at which the inductance value drops significantly, leading to potential loss of performance.

DC Resistance (DCR): The resistance of the inductor windings, which affects the overall efficiency and heat generation.

Lower DCR is preferred for high-efficiency applications.

Operating Frequency: The frequency range over which the inductor can effectively operate. High-frequency inductors are essential for modern inverters and rectifiers that operate at high switching frequencies.

Core Material: Determines the performance characteristics such as permeability, saturation point, and core loss. Common materials include iron powder, and laminated steel.

Features and Benefits

High Current Handling: Capable of handling large currents without saturation, ensuring reliable performance in power circuits.

Low DCR: Minimizes power loss and heat generation, enhancing efficiency and longevity.

Thermal Stability: Designed to operate under high temperatures, maintaining performance without degradation.

Compact Design: Modern power inductors are designed to provide high performance in compact packages, saving space in power electronics systems.

Applications

Power Supplies: Used in DC-DC converters, AC-DC power supplies, and uninterruptible power supplies (UPS).

