

OVERVIEW

With over 60 years of technical expertise, White-Rodgers has accumulated vast experience regarding electricity and electrical/electronic applications. Terminology used by industry to explain products and applications may be difficult at times to understand. Therefore, we have compiled some of the information in this section to assist you in understanding terminology and applications. Some of the information you will find is:

- Terms and Definitions
- Environmental Factors
- Agency Approvals

GENERAL TRANSFORMER CHARACTERISTICS

See individual catalog pages for specific information

Temperature: Storage -40°C to +105°C
Operating -40°C to +105°C

Humidity: 5% to 90% non-condensing

Altitude: Operating 10,000 ft.; non-operating 50,000 ft.

Vibration: 10 to 50 Hz all directions normally mounted

Insulation Resistance: 1,000 megohms @ 500V 80% relative humidity max.

Tolerances: Turns $\pm 1 \frac{1}{2}\%$ (unless otherwise noted)
Voltage $\pm 3\%$ (unless otherwise noted)
Inductance - 15% +50%
DC Resistance $\pm 10\%$ wire size up to 30
 $\pm 20\%$ wire size 31 to 44

Temperature Rise: Class A 65°C rise over 40°C ambient

Hi-Pot: 100% of production is hi-pot tested at 2x input plus 1000V or as required for 1 minute between primary and core also primary to secondary or 20% higher volts for 1 second.

GENERAL

What are the different temperature classes for transformers?

- Class A = 105° C (total max. temp.)
- Class B = 130° C (total max. temp.)
- Class F = 155° C (total max. temp.)
- Class H = 180° C (total max. temp.)
- Class C = 220° C (total max. temp.)

What is the difference between a U.L. Class 1, Class 2 and Class 3 transformer?

- Class 1 is a U.L. (Underwriters Laboratories) term which defines a general purpose transformer. Specifications can be found in U.L. 506.
- Class 2 is a U.L. term which indicates that the part meets specific safety requirements as defined in U.L. 1585 or U.L. 1310.
- Class 3 is a U.L. term which indicates that the part meets specific safety requirements as defined in U.L. 1585.

POWER TRANSFORMERS

What is "VA" and its relation to "Watts"?

- VA is equal to the output voltage times the output current in amps (VA = Volts x Amps)
- For the purpose of STANCOR's catalog, VA and Watts are typically equal.

What is "C.T."?

- C.T. stands for Center Tapped
- This means that the transformer winding has an extra connection (or tap) in the center. This provides the option to connect at this point to achieve 50% of the rated voltage. This is also required for a full-wave center tapped rectifier circuit.
- The typical transformer diagram below shows the primary input on terminals/leads 1 and 2. The full rated secondary output is obtained across terminals/leads 3 and 5. One half the rated voltage at the rated current may be obtained from 4 to 3 or 4 to 5. Terminal/lead 4 shows the location of the center tap. Some applications may not require a center tap in which case it may be insulated and not used.

