

## Dry Type Cast-Resin Transformer

The "HTT GERMANY" Dry Type Cast - Resin Transformer both HV. And LV. Are casted in vacuum chamber with epoxy resin. The transformer is superior by the following essential characteristics. The cast-resin transformer shall be manufactured and tested in conformity with latest revision of the appropriate IEC, VDE 0532 and DIN 42523 recommendation. The transformer shall be suitable for use in tropical climatic area and shall be capable of operating at its full ratings in the service conditions are as follows :-

### TRANSFORMER CHARACTERISTIC

Capacity	:	1600 kVA
No of phase	:	3
Frequency	:	50 Hz.
Primary Voltage	:	22 kV
Secondary Voltage	:	400/230 V
Tapping Off-circuit full capacity tap in High Voltage winding Range	:	$\pm 2 \times 2.5\%$
Cooling class	:	AN/AF
Insulation class	:	Class F For HV. and LV,
Vector group	:	Dyn 11
Basic impulse level	:	125 KV
Temperature rise	:	100 ° C
Ambient Temperature	:	40 ° C
Impedance voltage at 75 ° C	:	6 %
No load loss	:	3100 W
Load loss at 75 ° C	:	14000 W
Audible sound level (at 1 M)	:	50 dB(A) at 1 M
Transformer Weight	:	4050 Kgs
Transformer Dimension	:	1790 (L) x 1000 (W) x 2155 (H) MM
Housing Dimension	:	2700 (L) x 2000 (W) x 2700 (H) MM

### TRANSFORMER CONSTRUCTION

**CORE** The core shall be made of high quality non-aging, grain-oriented, low loss, high permeability silicon steel strips which have smooth surfaces at the edges and are properly annealed after cutting. Each sheet of the core shall be insulated on both sides with a durable, heat-resistant material. The core shall be rigidly clamped with positive locking devices and an adequate number of core bandages shall be applied to ensure uniform compression of the limbs. The design shall have sample mechanical strength to prevent shifting of steel laminations during transport and to reduce the vibration to a minimum during operation. The outside surfaces of the core shall be crated to prevent rust and corrosion.

**WINDINGS** Transformer winding shall be **COPPER**. Winding conductor shall be continuous, free from scale, burrs, splinters and shall be uniformly insulated. The high voltage winding shall be separately encapsulated with suitable epoxy resin and totally sealed to prevent moisture penetration. The high voltage winding shall be cast under vacuum and hardening process shall be closely controlled to ensure smooth surfaces and void free through out the entire casting. The low voltage winding isolating material prepreg.

**TERMINALS** The high voltage terminals shall be located at the upper part to the transformer and properly arranged that the under ground cables entering from below can be connected conveniently. The terminals shall be suitable for connection to copper cable and strong enough to hold the weight of cables. The low voltage neutral terminal shall be brought out, on the top outer most position, all low voltage terminals shall be mounted on the opposite side of the high voltage terminals and in the upper part of the transformer:

### **ACCESSORIES**

- The transformer shall equipped with the following accessories Pulling lugs and Lifting lugs.
- Rollers bi-direction wheels.
- Ground terminal.
- Name and instruction plate with wiring diagram

### **TEST AND TEST REPORT**

Each transformer shall be given the following test in accordance with the reference standard.

- Ratio test.
- Resistance measurement of all windings.
- No load loss..
- Load loss
- Applied potential test.
- Induced potential test.
- Partial dischargel test.

The certified test reports shall be submitted for customer on the date of shipping.

## TEMPERATURE MONITORING & PROTECTION

The digital temperature relay has been created an accessory of main importance for cast resin transformers, as protection against dangerous over temperatures on the insulating coils, on the winding and to manage the intervention of cooling fans. The temperature is detected by 3 or 4 thermal detectors PT100 DIN 43760, three of them located in the transformer coils.

### FEATURES:

- display of the actual temperature of the 3 coils
- display & storage of the highest temperature of each coil
- 3 programmable output contacts from 0°C to 220 °C level 1, level 2 and fan control
- automatic and "Always ON" fan mode
- alarm of relay failure or PT100 disconnection
- automatic fan start every week.(bearing protections)
- insulated RS-485 communication port (if required)

### TECHNICAL SPECIFICATIONS

Scale: -10 ÷ +200 °C

Accuracy: ± 1%F.S.± 1 digit

Settings: L1, L2, Fan : 0-220°C

Supply voltage: 24-240 Vcc/Vca(50-60Hz),-15%,+10%

Max. power consumption : 4VA or 4W

Operational temperature: 0-50°C

Storage temperature: -20-70°C

### TRANSFORMER ENCLOSURE

The enclosure shall be constructed of heavy gauge sheet steel. The frame shall have adequate dimensions and properly braced to be rigid structure.

The enclosure shall be designed so that the transformer can be easily removable and provided the ventilating opening on both sides to allow adequate air flow through the windings and heat dissipation to at mosphere. Protection class of enclosure shall be IP 21