RESIDUAL VOLTAGE TRANSFORMER (RVT)

AKANKSHA®

RESIDUAL VOLTAGE TRANSFORMER RVT

Construction:

1. **Core: 3 Phase 5 Limb** CRGO steel core to avoid saturation**.**
2. **Windings:**
   - Primary: Connected across two phases.
   - Secondary: For Measurement of Voltage
   - Residual (tertiary): Open-delta (V-V) configuration to detect zero-sequence voltage
3. **Insulation:** Oil-filled or Resin Cast high-grade insulation (Class E/F).
4. **Enclosure:** Outdoor weatherproof tank (IP55/IP65) with porcelain or composite bushings
5. **Accuracy Class: 3P or 6P (Protection); 0.5/1.0 (Metering).**
6. **Voltage Rating:** Matches system voltage; 3.3 KV ,6.6 KV,11 KV (Resin Cast) & 11KV ,22 KV, 33 KV Outdoor Oil Cooled & **Output** residual winding typically 110V(P-P) or 63.5V.(P-N)
7. **Standards:** IEC 61869-3 / IEEE C57.13.
8. **Extra:** Ferro resonance damping resistors, pressure relief device, grounding terminal.

Features:

1. Zero-sequence voltage detection (for ground fault protection)
2. Open-delta (V-V) tertiary winding configuration
3. High accuracy for protection and metering (Class 3P or 6P, 0.5 or 1.0 etc.)
4. Insulated with oil or Resin Casted for high-voltage reliability
5. Compact and robust for outdoor/indoor use
6. Standard compliant (IEC 61869-3 / IEEE C57.13)
7. Optional ferro resonance suppression resistors
8. Low burden and high thermal capacity

Application:

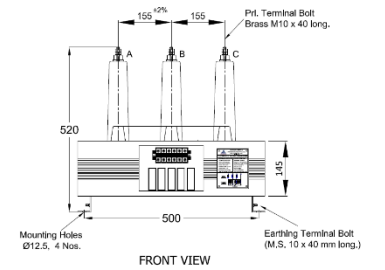
1. Ground fault detection in ungrounded or resonant-grounded systems.
2. Zero-sequence voltage measurement for protective relays (e.g., 59N, 64).
3. Neutral displacement monitoring.
4. Earth fault protection in high-voltage substations.
5. Voltage indication during line isolation or maintenance.
6. Back-up protection for generator and transformer units.
7. Voltage detection in islanding or abnormal system conditions.

Technical data & Specification	
Parameter	**Typical Specification**
Type	Three-phase, star-star/open-delta residual voltage transformer.
Rated System Voltage	3.3 kV / 6.6 kV / 11 kV / 33kV.
Primary Voltage	Line-to-line
Residual (Tertiary) Voltage	110 V / 63.5 V (open-delta winding).
Frequency	50 Hz / 60 Hz
Accuracy Class	Protection: 3P, 6P; Metering: 0.5, 1.0
Burden	25 VA / 50 VA / 100 VA (as per requirement)
Insulation Medium	Mineral oil / Resin Cast
Impulse Withstand Voltage	As per voltage class
Thermal Class	Class A / B / F
Installation	Outdoor / Indoor (pole-mounted or floor-mounted)
Standards	IEC 61869-3 / IS - 16227
Cooling	Natural air/oil-cooled (AN/ON)

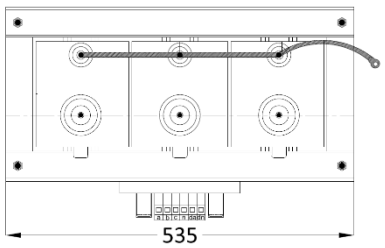
Types of Mounting	
Mounting Type	**Description**
Pole-Mounted	Used for Medium voltage RVTs (e.g., 11 kV or 33 kV); mounted on a steel or concrete pole in distribution systems.
Panel/Indoor Mounted	Compact RVTs (for indoor switchgear up to 11 kV); fixed inside control panels or switchboards.

RESIDUAL VOLTAGE TRANSFORMER RVT

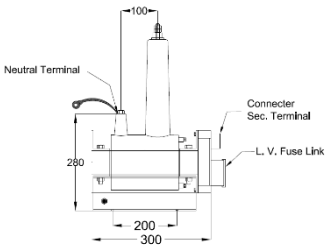
Dimensional drawing



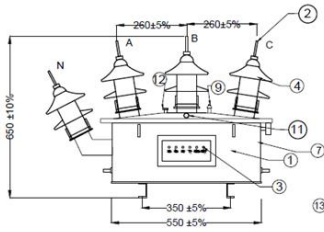
FRONT VIEW



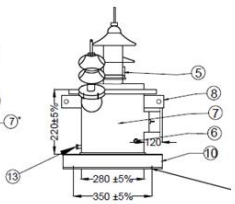
TOP VIEW



SIDE VIEW



FRONT VIEW



SIDE VIEW

Note: - Please refer the specific data sheet for specific capacitors.

RESIDUAL VOLTAGE TRANSFORMER RVT

Rating Plate

	kV RESIDUAL VOLTAGE TRANSFORMER	
Customer :-		
Type		Spec. No.
Ratio		Serial No.- AKRVT/
Star/Star-Open Delta		Earthing System -
Burden-		Insulation Class -
Accuracy class-		Frequncy - Hz
Line Voltage		No of Phase -
B.I.L. kV/ kV/ kVp		Year of MFG.
V.F.- 1.2 Cont. & For Sec.		Total Weight- kg ±10%
Manufactured By: AKANKSHA POWER AND INFRASTRUCTURE LTD. 87/4, MIDC, SATPUR, NASHIK 422007.		

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless point out that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. As a rule, we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art infrastructure, even if they are operated as specified. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. The warnings, cautions and product-specific notes must be observed.

4. To satisfy certain technical requirements, some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous). Useful information on this will be found in our Material Data Sheets on the Internet (www.apil.co.in). Should you have any more detailed questions, please contact our sales offices.

5. We constantly strive to improve our products. Consequently, the products described in this publication may change from time to time. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.

We also reserve the right to discontinue production and delivery of products. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

1. Unless otherwise agreed in individual contracts, **all orders are subject to our General Terms and Conditions of Supply.**
2. **Our manufacturing lines are certified by ISO 9001-2015 standard.** The ISO certifications confirm our compliance with requirements regarding the quality management system. Referring to customer requirements and customer specific requirements (“CSR”) APIL always has and will continue to have the policy of respecting individual agreements. we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System.**
3. The trade names “AKANKSHA” is **registered under trademark law of India, f**urther information will be found on our website www.apil.co.in, or can contact us.