



JSL INDUSTRIES LTD

“Jyoti” Voltage Transformer (Indoor)

Introduction

Features & Technical Specification

Dimensional Details

Tech.Details Req. With Order



Epoxy Resin Insulated ,
Compact Design, High
Mechanical and Dielectric
properties Complying with
latest IS : 3156 / IEC-186

“Jyoti” Voltage Transformer (Indoor)



‘Jyoti’ Voltage Transformers (Indoor Application)

JYOTI Voltage Transformer (VT) for Indoor Application meets the requirements of reliable measurement of power and protection of distribution system upto 33 KV rating.

FEATURES :

- Compact Design.
- High Mechanical & Dielectric Properties.
- Non-hygroscopic & suitable for tropical environment.
- Non-combustible and resistant to power Arc.
- Model VR/UR can be mounted in any position
- Assuring high insulation reliability by partial discharge measurement as per IS : 11322/IEC : 44-4 incorporated as a routine test.

DESIGN :

To embed the winding of the Voltage Transformer, epoxy resin is used. Primary winding is carefully done and impregnated in polyester resin under vacuum to provide high dielectric strength between the turns as well as adjacent layers. A thorough penetration of the impregnating resin ensures longer insulation life for the voltage transformer in addition to an excellent bonding of turns. After the resin impregnation, the primary winding is encapsulated under vacuum in epoxy resin. Overall dimensions of the voltage transformers have been considerably reduced (i) with the use of solid insulation for the primary winding and (ii) by using cold rolled grain oriented silicon steel lamination having high permeability and low hysteresis loss for the magnetic core. All the VTs for 11KV system are having an arrangement of built-in HV fuse.

These VTs are suitable for mounting in latest narrow width medium voltage switchgear incorporating VCBS. VTs type VR-11 for single pole and UR-11 for two pole applications are designed. and hundred of these type of VTs are successfully commissioned by major OEM's and are working satisfactorily.

The Vts type SPT-11 and VR-11 are having single pole insulated design suitable for star connection, while UVG-11 has two winding design suitable for 'V' Connection for 3 phase system. The Vts type UR-11 are also suitable for 3 phase system by using two Nos VTs - 'V' connected externally.

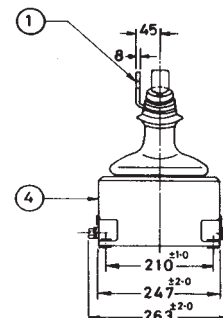
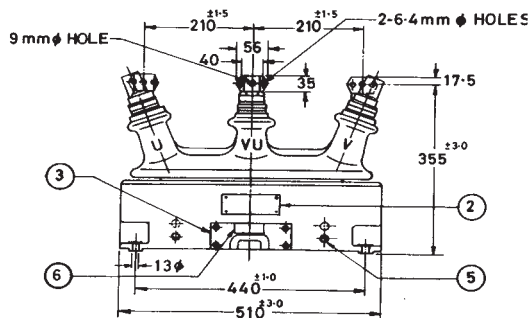
SELECTION OF VOLTAGE FACTOR FOR SINGLE POLE VTs

- a) For VTs with effectively earthed neutral system :
1.2 continuous
- b) For VTs with non effectively earthed neutral system :
1.2 continuous & either 1.9 for 30 Sec. Or 1.5 for 30 Sec.
- c) For VTs with unearthed neutral system : 1.2 Continuous and 1.9 for 8 hours.

FERRO-RESONANCE EFFECT :

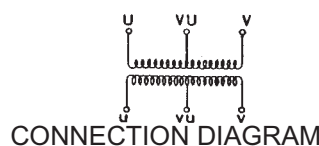
When VTs are used in unearthed neutral system, the non linear inductance of VT and the capacitance of ground of the circuit can resonate resulting in sub harmonic oscillations. The VTs may get damaged, if these oscillations are sustained. It is therefore, recommended that in such cases, suitable damping resistor be connected across the open delta tertiary winding. The magnitude of the resistor can be obtained from us.

GENERAL ARRANGEMENT OF '3' PHASE V-CONNECTED CAST RESIN INDULATED V.T. TYPE : UVG-3.3/6.6/11



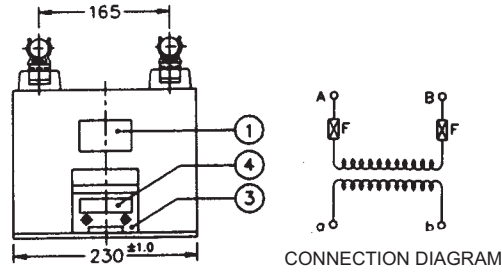
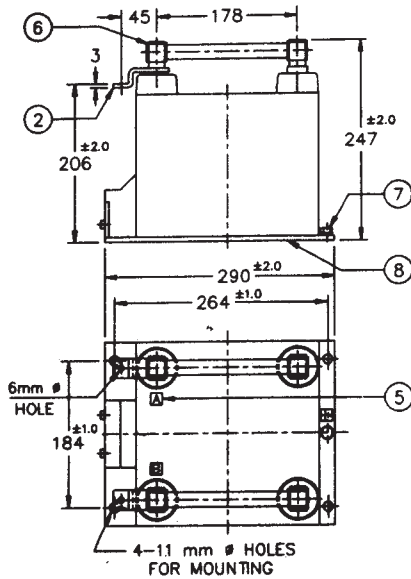
TOTAL WEIGHT = 60 KG (Approx.)

1. ROTATABLE H.V. TERMINAL
2. NAME PLATE
3. SECONDARY TERMINAL COVER
4. FRAME
5. EARTHING SCREW (M8)
6. CONNECTION DIAGRAM



NOTE : All Dimensions are in mm

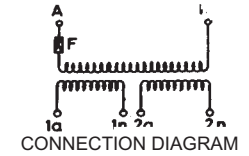
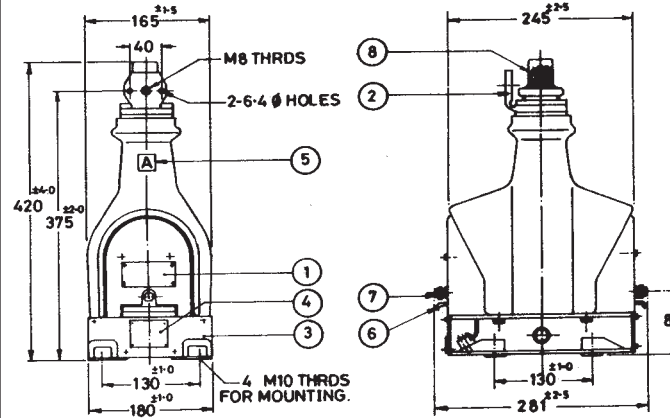
GENERAL ARRANGEMENT OF 11 KV TWO POLE CAST RESIN INSULATED V.T.
TYPE : UR-3.3/6.6/11



1. NAME PLATE
 2. H.V. CONNECTION LINK
 3. SECONDARY TERMINAL COVER
 4. TERMINAL MARKING LABEL
 5. EARTHING SCREW (M8)
 6. MOUNTING BASE PLATE
 7. CONNECTION DIAGRAM
 8. HIGH VOLTAGE FUSE
- TOTAL WEIGHT = 25 KG (Approx.)

Note : All Dimension are in mm

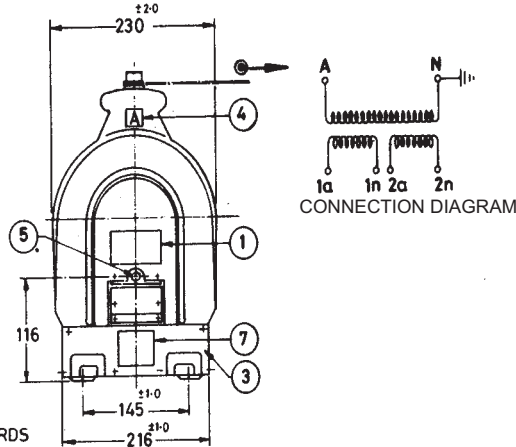
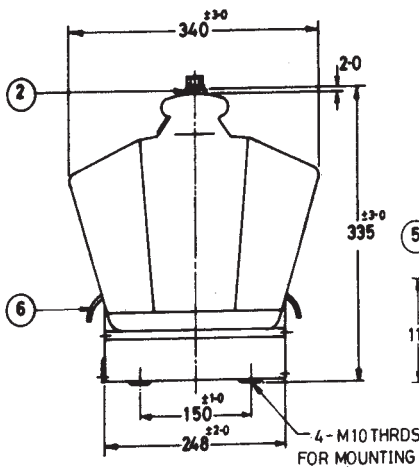
GENERAL ARRANGEMENT OF 11 KV SINGLE POLE CAST RESIN INSULATED V.T.
TYPE : SPT-3.3/6.5/11/3.3A/6.6A/11A



1. NAME PLATE
2. PRIMARY TERMINAL
3. SECONDARY TERMINAL COVER
4. CONNECTION DIAGRAM
5. TERMINAL MARKING LABEL
6. LIFTING HANDLE
7. EARTHING SCREW (M8)
8. PRIMARY FUSE CAP

Note : All Dimension are in mm
'N' Terminal to be Solidly earthed.

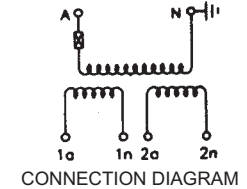
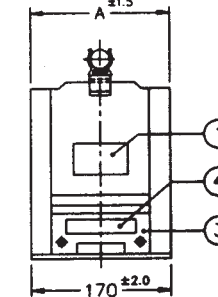
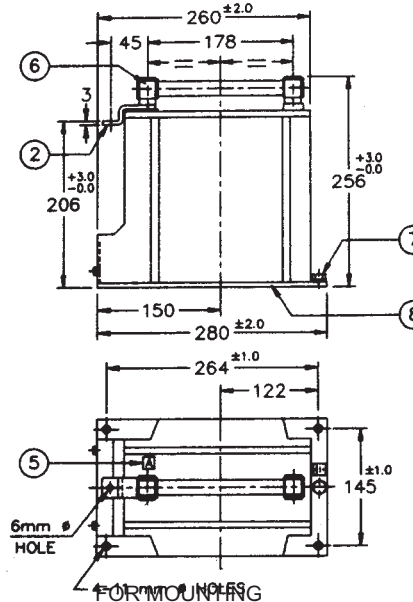
GENERAL ARRANGEMENT OF 33 KV SINGLE POLE CAST RESIN INSULATED V.T.
TYPE : SPT-22/33/22A/33A



1. NAME PLATE
2. H.V. TERMINAL (M10)
3. SECONDARY TERMINAL COVER
4. TERMINAL MARKING LABEL
5. EARTHING SCREW (M8)
6. LIFTING HANDLE
7. CONNECTION DIAGRAM

Note : All Dimension are in mm
H.V. Lead connection on this directin.
'N' Terminal to be Solidly earthed.

GENERAL ARRANGEMENT OF 11 KV CAST RESIN INSULATED V.T.
TYPE : VR-3.3A/B,6.6A/B, 11A/B



1. NAME PLATE
2. PRIMARY TERMINAL
3. SECONDARY TERMINAL COVER
4. CONNECTION DIAGRAM
5. POLARITY LABEL
6. HIGH VOLTAE FUSE (3 Amp)
7. EARTHING SCREW (M8)
8. MOUNTING BASE PLATE

Note : All Dimension are in mm
Multi ratio is obtained on Secondary Tapping
'N' Terminal to be solidly earthed

TECHNICAL SPECIFICATIONS :

Sr. No.	Model	Voltage			Maximum Rated Burden (VA) Accuracy Class		Voltage Factor	Application	Remarks
		Primary KV	Secondary V	Tertiary V	Secondary	Tertiary			
1	VR-3.3 B	3.3/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	100 / 0.5	50 / 3P	1.2 continuous and 1.9 for 8 hours	Measuring and Protection	Fully encapsulated, Single Phase to earth, having Built - in H.V. HRC Fuse
	VR-6.6 B	6.6/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	OR	OR			
	VR-11 B	11/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	200/1.0	50/ 6P			
2	SPT-3.3 A	3.3/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	100 / 0.5	50 / 3P	1.2 continuous And 1.9 for 8 hours	Measuring And Protection	Single Phase to earth, having built-in H.V.HRC Fuse
	SPT-6.6 A	6.6/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	OR	OR			
	SPT-11 A	11/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	200/1.0	50 6P			
3	UR-3.3	3.3	110	...	100 / 0.5	...	1.2 continuous	Measuring	Fully encapsulated, Two Poles, having built-in H.V. HRC Fuses
	UR-6.6	6.6	110	...	OR	...			
	UR-11	11	110	...	200/1.0	...			
4	UVG-3.3	3.3	110	...	100 / 0.5	...	1.2 continuous and	Measuring	V-Connected, Three Poles, insulated, having built in H.V.-HRC Fule
	UVG-6.6	6.6	110	...	OR	...			
	UVG-11	11	110	...	200/1.0	...			
5	SPT-22 A	22/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	100 / 0.5	50 / 3P	1.2 continuous And 1.9 for 8 hours	Measuring And Protection	For Single phase to Earth, without provision of H.V. - HRC Fuse
	SPT-33 A	33/ $\sqrt{3}$	110/ $\sqrt{3}$	110/3	OR 200/1.0	OR 50 6P			

NOTE : Rating and specifications other than those mentioned above can also be offered on request

TECHNICAL DETAILS REQUIRED ALONGWITH ENQUIRY / ORDER :

- Application : Indoor
- Type of connection
- Rated Transformation Ratio.
- No. Of Secondary windings.
- Rated Burden in VA for each secondary winding
- Rated Accuracy class for each secondary
- Rated Voltage factor.
- System Voltage in KV.
- Basic Insulation level in KV
- Insulation Class.
- Special requirement, if any.





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