

**NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.**  
**LIST OF STANDARD DRAWINGS**  
**FOR EPC CONTRACTS ONLY**

145 KV INDUCTIVE VOLTAGE TRANSFORMER		VTR RATIO = $\frac{132kV}{\sqrt{3}} / \frac{110V}{\sqrt{3}}$				
SR.NO.	TITLE	DRAWING NO.	REV.	RECORD		
				APPLICATION	RETURN	CC
				KIND	DATE	DATE
01	GENERAL ARRANGEMENT DRAWING	145IVT HC I WDG GA	R0	AA	15.09.2021	
02	SECTIONAL VIEW	145IVT HC I WDG SV	R0	AA	15.09.2021	
03	RATING & SCHEMATIC DIAGRAM	145IVT HC I WDG RS	R0	AA	15.09.2021	
04	SECONDARY BOX ASSEMBLY	145IVT HC I WDG SB	R0	AA	15.09.2021	

IF IN DOUBT ASK

- AA : Application for Approval
  - RA : Reapplication for Approval
  - FD : Final Drawing
  - RD : Reference Drawing
  - AP : Approved
  - AC : Approved with Corrections
  - RC : Return for Corrections
  - CC : Customer Comments
- 1) Minimum 300mm plinth shall be maintained for CT/PT/CVT/Isolators in the substation during foundation works to ensure safe live to ground clearances as per IE rules.
- 2) Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with CT/PT/CVT/Isolators requirement and compatibility.

Drawing approval subject to valid vendor registration

**Chief Engineer**  
**Power Systems, Planning & Design**  
**APTransco**

PACKING DIMENSIONS : L-920 x W-680 x H-2725 mm.  
 NET WEIGHT : 400 Kg. (Approx.)  
 GROSS WEIGHT : 600 Kg. (Approx.)

SURFACE FINISH.....  
 FINISH : MS COMPONENT- HOT DIP GALVANISED.

Customer : APTRANSCO  
 Customer Order Ref. :  
 QUANTITY :

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	SCALE	N.T.S.	DATE	ALL DIMENSIONS ARE IN mm
R6				R4							
R5				R3							
				R2							
				R1							

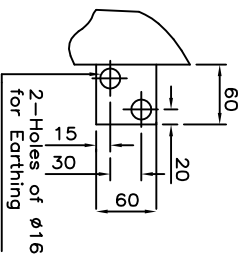
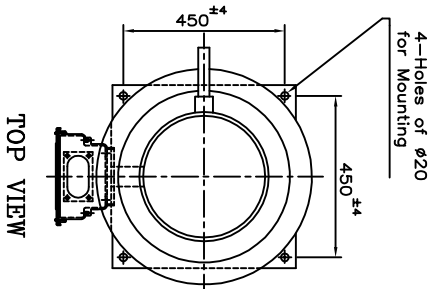
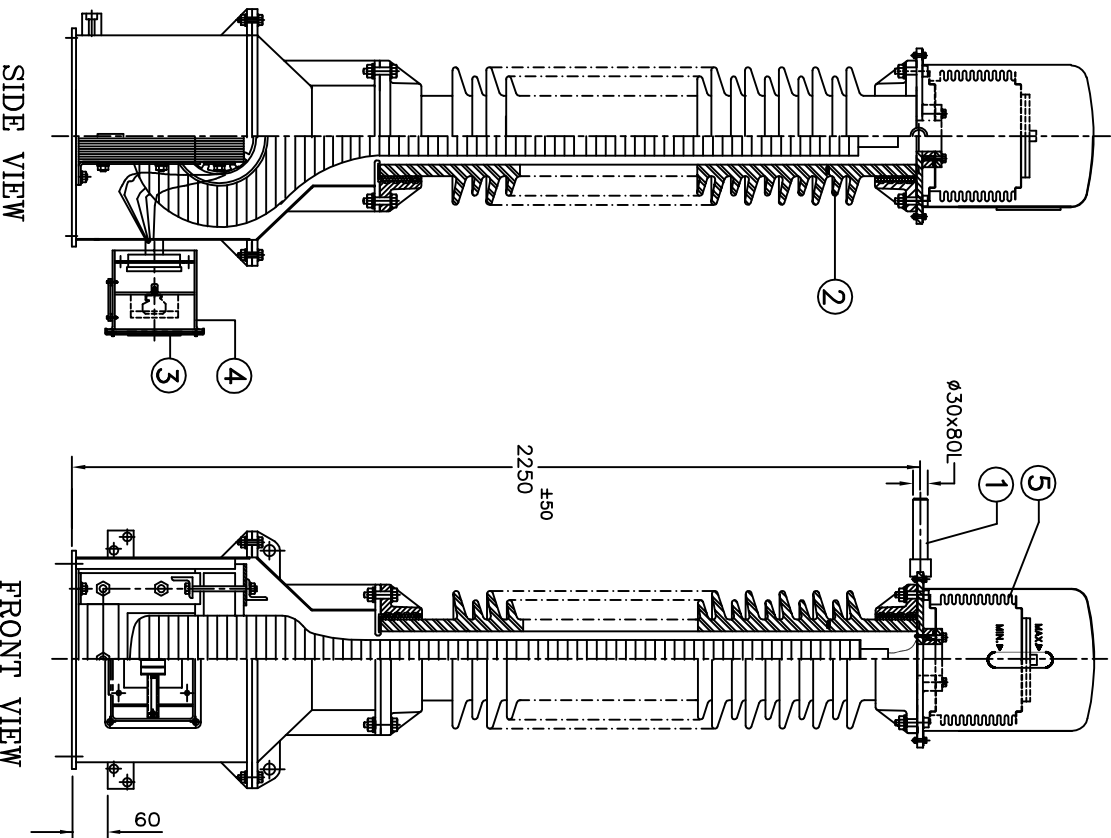
**LIST OF DRAWINGS**  
 145 KV INDUCTIVE VOLTAGE TRANSFORMER  
 TYPE-VTR01:145/650/50



CG Power and Industrial Solutions Limited, Bangalore  
 DRG-NO--145IVT HC I WDG LD/RO

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IF IN DOUBT ASK



EARTHING PAD DETAILS

NO.	QTY.	DESCRIPTION	MATERIAL
1	1	PRIMARY TERMINAL (ø30x80L) Min.	COPPER
2	1	PORCELAIN INSULATOR (BROWN COLOUR)	PORCELAIN
3	1	RATING & SCHEMATIC DIAGRAM	145VT HC I WDG RS
4	1	SECONDARY TERMINAL BOX	145VT HC I WDG SB
5	1	BELLOWS	STAINLESS STEEL

Chief Engineer  
Power Systems, Planning & Design  
APTranSCO

NOTE : PLEASE REFER INSTRUCTION MANUAL FOR HANDLING & TRANSPORTATION OF VT.

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE
R6				R4				R2			
R5				R3				R1			

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE

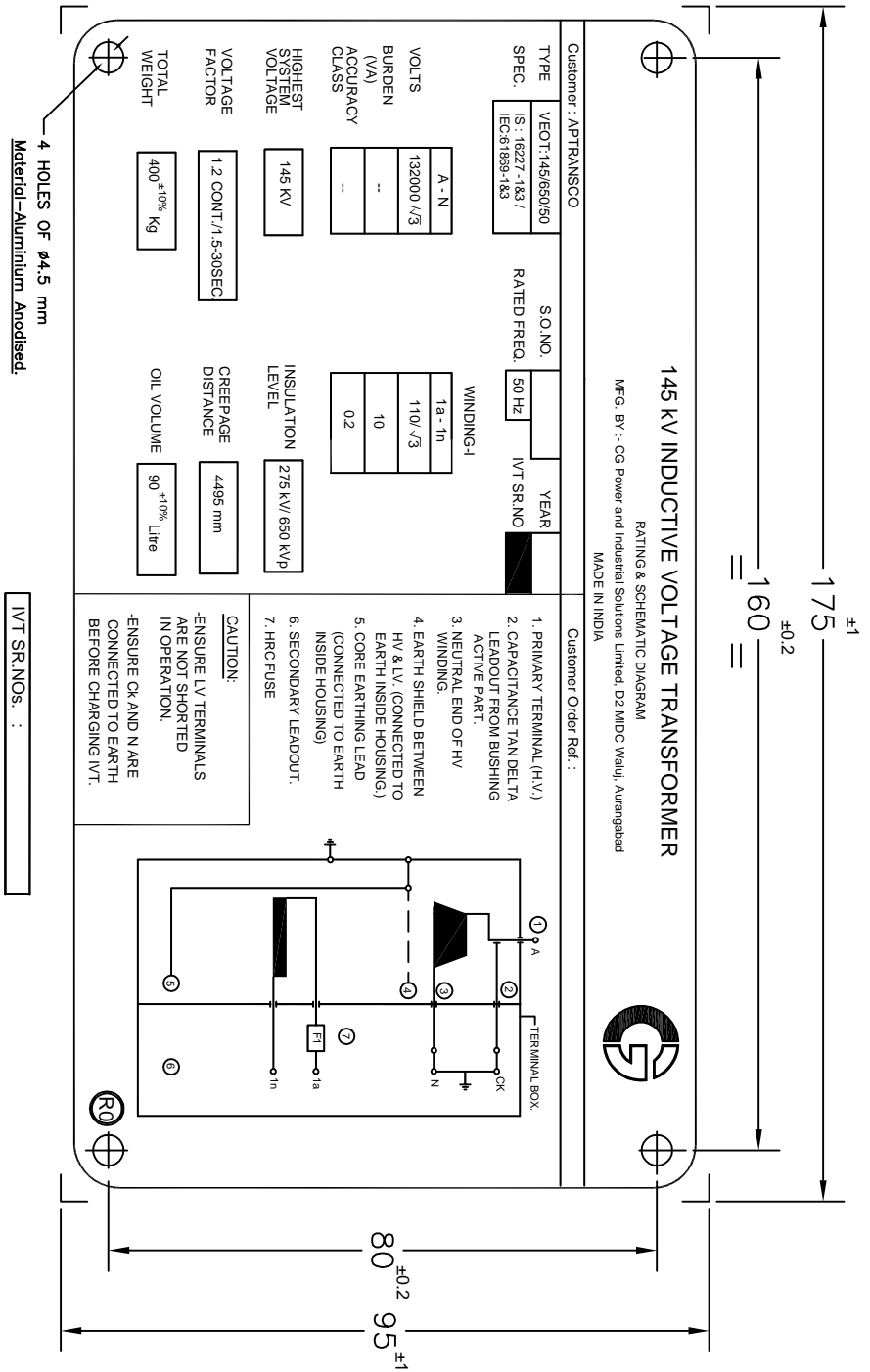
GENERAL ARRANGEMENT DRAWING	NAME	SIGN
DR 145 VT INDUCTION METER TRANSFORMER	SSM	
TYPE-VE01:45/650/50	SSM	
	SDS	

CC Power and Industrial Solutions Limited Aurgahad	DRG.NO.-145VT HC I WDG GA/RO



IF IN DOUBT ASK



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 Power Systems, Planning & Design  
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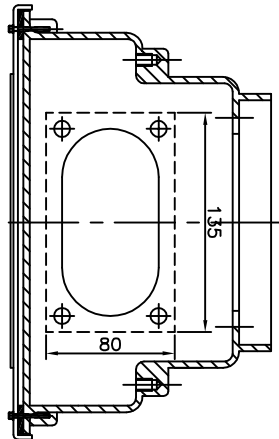
NO	REVISION	SIGN/DATE	NO	REVISION	SIGN/DATE	NO	REVISION	SIGN/DATE	NO	REVISION	SIGN/DATE	NO	REVISION	SIGN/DATE
R6			R4			R2			R1			R3		
R5			R3			R1								



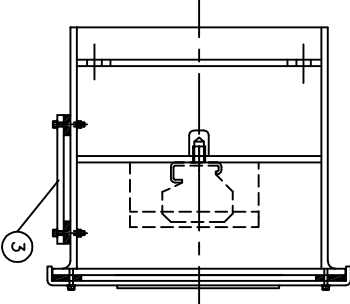
CG Power and Industrial Solutions Limited, Aurangabad  
 DRG.NO--145IVT HC I WDG RS/R0

Drawing approval subject to valid vendor registration

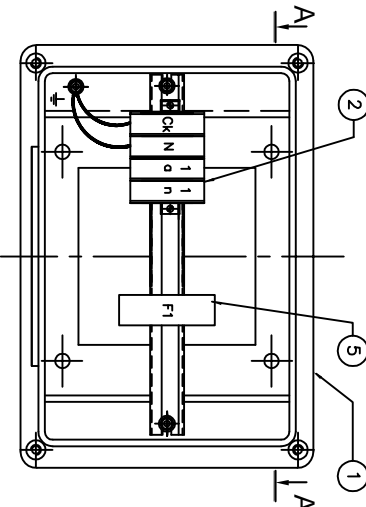
SL.NO.	QTY	ITEM	MATERIAL	RM SIZE/SPECIFICATION
1	1	SECONDARY BOX ASSEMBLY	ALUMINIUM	DRG.NO.-480684
2	4	SEC:TERMINAL BLOCK WITH MARKER	MELAMINE	MAKE: ELMEX KBT M5-15
3	1	GLAND PLATE	ALUMINIUM	135x80 mm.
4	1	RATING & SCHEMATIC DIAGRAM	ALUMINIUM ANOD.	--
5	1	HRC FUSE	RATING-6AMP., REPUTED MAKE	



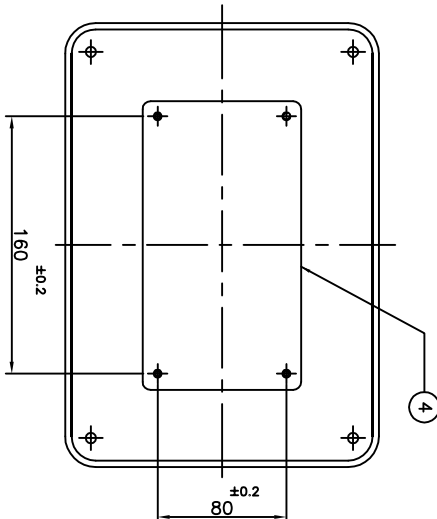
TOP VIEW (SECTION A-A)



SIDE VIEW



ELEVATION



COVER

IF IN DOUBT ASK

- NOTES :
- 1) SECONDARY BOX ASSEMBLY TO CONFIRM IP55 AS PER IS:13947
  - 2) OK:TERMINAL FOR CAPACITANCE & TAN DELTA MEASUREMENT ONLY. SHOULD BE KEPT EARTHED WHEN NOT IN USE.

Chief Engineer  
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APTtransco

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	
R6				R4																
R5				R3																

SECONDARY BOX ASSEMBLY  
FOR 145KV INDUCTIVE VOLTAGE TRANSFORMER  
TYPE:VOT:145/650/50

CG Power and Industrial Solutions Limited, Aurangabad  
DRG.NO: 1451V1 HC I VDS 3B/R0

**CG Power and Industrial Solutions Limited**  
**Vacuum Interrupters and Instrument Transformers Division: Power Systems**  
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**GUARANTEED TECHNICAL PARTICULARS FOR  
 ELECTROMAGNETIC (INDUCTIVE) VOLTAGE TRANSFORMERS**

REF.	145 KV IVT	132000/√3 /110/√3 V , High Creepage.			Revision No.	R0
Sr#	Particulars	Unit	Values			
1	Type/ Installation					
2	Manufacturer's Name and Country of Manufacture		CG Power and Industrial Solutions Limited Aurangabad, India			
3	Manufacturers Type designation		VEOT:145/650/50			
4	Highest System Voltage (Ph. to ph.)	kV	145			
5	Type of insulation used		Class A (Oil Impregnated Paper)			
6	Rated Frequency	Hz	50			
7	Suitable for Altitude (Max)	Meters	1000			
8	Conforming to Standard		IS: 16227-1&3 / IEC: 61869-1&3			
9	Rated System Voltage	kV	132/√3			
10	No. of Secondary Windings		One			
11	Secondary Winding Details		I			
12	Rated Primary voltage	Volts	132000/√3			
13	Rated Secondary Voltage	Volts	110/√3			
14	Rated Secondary Burden	VA	10			
15	Accuracy Class		0.2			
16	Rated Voltage Factor		1.2 Continuous, 1.5 for 30 secs.			
17	Simultaneous Burden		NA			
18	One minute Power Frequency (Wet & Dry) withstand Voltage on Primary Winding	kV rms	275			
19	1.2/50 micro sec. Lightning Impulse withstand Voltage	kV peak	650			
20	One minute Power Frequency withstand Voltage on Secondary Winding	kV rms	3			
21	Total Creepage distance	mm (mm/kV)	4495 (31 mm/kV)			
22	Primary Terminal material & details		Copper, φ30 x 80 mm long			
23	Surface Finish of MS components exposed to atmosphere		Hot Dip Galvanized			
24	Secondary Terminal Box arrangement		Single Door Box.			
25	Volume of Oil	Litres	90 +/-10%			
26	Total weight of equipment	kg	400 +/-10%			
27	Mounting details	mm	4 holes of φ20 at 450 x 450 mm			
28	Dielectric Dissipation Factor ( Tan-Delta )		< 0.005			
29	Measurement of Partial Discharge @ 1.2 UM/ √3	pC	< 5			
30	Measurement of Partial Discharge @ UM	pC	< 10			

**NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.**

Registered Office:  
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 Corporate Identity Number: L99999MH1937PLC002641

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