

8454186/2024/EEMR/0151 TO BE CHECKED DURING ACCEPTANCE TESTS

STRATON

2. FOR EPC CONTRACTS ONLY

GUARANTEED TECHNICAL PARTICULARS OF OIL IMMersed VOLTAGE TRANSFORMER (31mm/kV)

Customer Name	M/s. Transmission Corporation of Andhra Pradesh Limited.	Drawing No	APT/033OV/02B
Project Name	-	Model. No.	033OV12LDG
PO # & Date	-	Rev.	0
Item Desc.	33kV Oil Immersed Dead Tank Voltage Transformer (0.2/10VA, 0.2/50VA)		

S.NO	PARTICULARS	UNITS	DESCRIPTION	
1	Manufacturer's name and country of manufacture		M/s. Straton Electricals Pvt Ltd, Sy No. 42/A1/1, Alinagar, Gaddapotaram (GP), Jinnaram(M), Sangareddy (Dist.), Hyderabad 502319, Telangana, India	
2	Type		Single Phase, Oil immersed, Dead tank	
3	Installation type		Outdoor / Pedestal Mounted	
4	Rated Voltage / Highest System Voltage	kV	33/36	
5	Insulation Class		A	
6	Rated frequency	Hz	50	
7	Conforming to Standard		IS 16227(Part 1 & 3) 2015	
8	No. of secondary windings		Two	
9	Rated System Voltage	V	33000	
10	Winding details		Wdg I	Wdg II
11	Rated Primary Voltage	V	33000/ $\sqrt{3}$	33000/ $\sqrt{3}$
12	Rated Secondary Voltage	V	110/ $\sqrt{3}$	110/ $\sqrt{3}$
13	Accuracy Class		0.2	0.2
14	Rated Secondary Burden	VA	10	50
15	Rated Voltage Factor		1.2 cont. & 1.5 for 30s	
16	Basic Insulation Level	kVp	36/70/170	
17	Primary terminal material and details	mm	Nickle Plated Copper stud of 30mm diameter 80mm length	
18	Secondary terminal material and details		M6 stud type terminal block	
19	One minute power frequency withstand voltage test on primary winding	kVrms	70	
20	Lightning impulse withstand voltage	kVp	170	
21	One minute power frequency withstand voltage test on secondary winding	kVrms	3	
22	Measurement of Partial Discharge @ $1.2 \cdot U_m / \sqrt{3}$	pC	< 5	
23	Measurement of Partial Discharge @ U_m	pC	< 10	
24	Type & make of porcelain housing		CJI / Ravi Kiran / Modern / Any std. make	
25	Material of tank		Mild steel	
26	Gauge of the MS tank with Paint shade 631 as per IS 5		- Min 5mm for top cover and bottom - Min 3.15mm for remaining tank & base	
27	Hardware exposed to air		Hot dip galvanized / Alu. Zinc	
28	Total creepage distance	mm	1116	
29	Live part to ground clearance	mm	400(min)	
30	Temperature rise over ambient	°C	<50 as per IS 16227(Part 1 & 3)	
31	Oil Filling Arrangement		Oil filling valve on top of the tank & drain valve at the bottom	
32	Whether all O-rings are fixed in properly machined grooves?		Yes	
33	Sealing arrangement (Gasket with groove)		1. Insulator flange interfaces at top tank & base. 2. The secondary terminal interface of molded epoxy cast resin monoblock with O-ring. 3. Oil level indicator & primary stud interface with tank	
34	Type of Insulator Construction		Both Flanges cemented on the top & bottom of bushing.	
35	O-rings & gaskets' material		NBR, Butyl Rubber	
36	Weight of Steel	Kgs	40 Approx.	
37	Weight of Copper	Kgs	6 Approx..	
38	Weight of oil	Ltr.	35 Approx.	
39	Total weight of equipment	Kgs	160 Approx.	

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Customer Name	M/s. Transmission Corporation of Andhra Pradesh Limited.	Drawing No	APT/033OV/02B
Project Name	-	Model. No.	033OV12LDG
PO # & Date	-	Rev.	0
Item Desc.	33kV Oil Immersed Dead Tank Voltage Transformer (0.2/10VA, 0.2/50VA)		

40	Mounting details	mm	400mm x 400mm
41	Overall Dimensions		As per GA drawing

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST
REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS
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1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/Isolators/IV/LA/Breakers in the Substation during foundation works to ensure safe live to ground clearance as per IE rules.

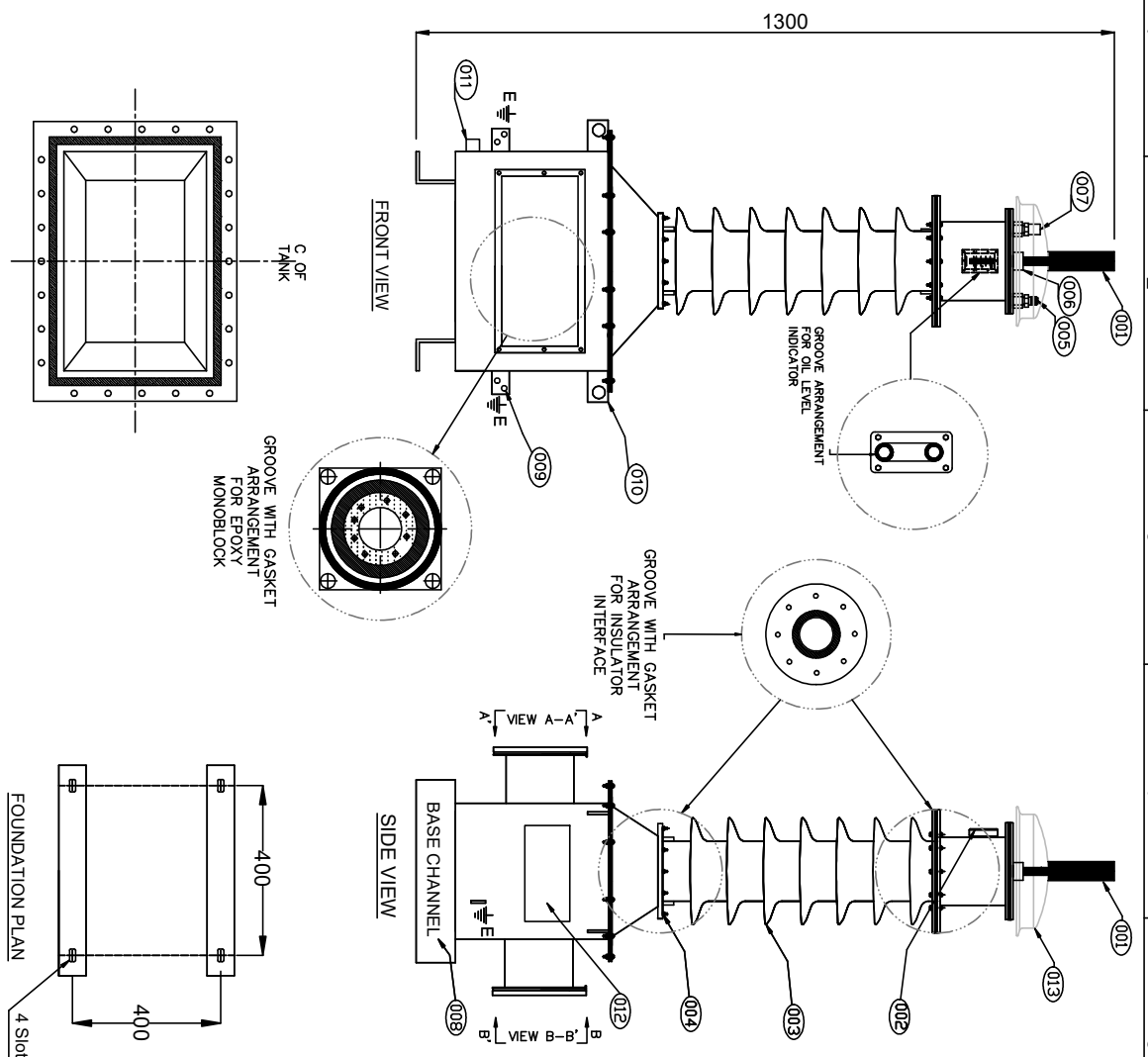
2. Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings. The EPC contractor shall be instructed to supply the same in line with CT/PT/CVT/Isolator/IVT/LA/Breakers requirement and compatibility.

Drawing approval subject to valid vendor registration

**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

8454186/2024/EEMRT-ENP51

S.NO	ITEM DESCRIPTION	MATERIAL	QTY
001	HT TERMINAL	Ø30mm NICKEL PLATED COPPER	01
002	OIL LEVEL INDICATOR (OIL)	AL. DIE CASTED (PRISMATIC)	01
003	INSULATOR	PORCELAIN	01
004	BUSHING ENDS	CEMENTED FLANGE TYPE	02
005	N2 FILLING VALVE	BRASS	01
006	OIL FILLING PLUG	MILD STEEL	01
007	PRESSURE RELIEF VALVE (1/2")	BRASS (Operating Pres: 1 Kg/Cm2)	01
008	MOUNTING BASE	MILD STEEL	01
009	EARTH PADS	SS (50x8x70(L)mm)	02
010	LIFTING HOLES	MILD STEEL	04
011	DRAIN PLUG	MILD STEEL	01
012	NAME PLATE	ALUMINIUM	01
013	DOME COVER	MILD STEEL	01



- NOTE:-**
1. CONFORMING TO IS : 16227 (Part 1 & 3)
 2. INSULATING OIL CONFORMING TO IS: 335
 3. PT WILL BE HERMETICALLY SEALED.
 4. DIMENSION TOLERANCES ±5%.
 5. TANK FINISHING WILL BE PAINTED. WITH PAINT SHADE 631 AS PER IS 5
 6. ALL HARDWARE EXPOSED TO ATMOSPHERE WILL BE HOT DIP GALVANIZED OR AL. Zn.
 7. CREEPAGE DISTANCE : 1116mm min.
 8. TOTAL OIL QUANTITY : 35 Kgs (Approx).
 9. TOTAL ESTIMATED WEIGHT: 150 Kgs (Approx).
 10. SECONDARY TERMINALS : M6 STUD TYPE TERMINAL BLOCKS.

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

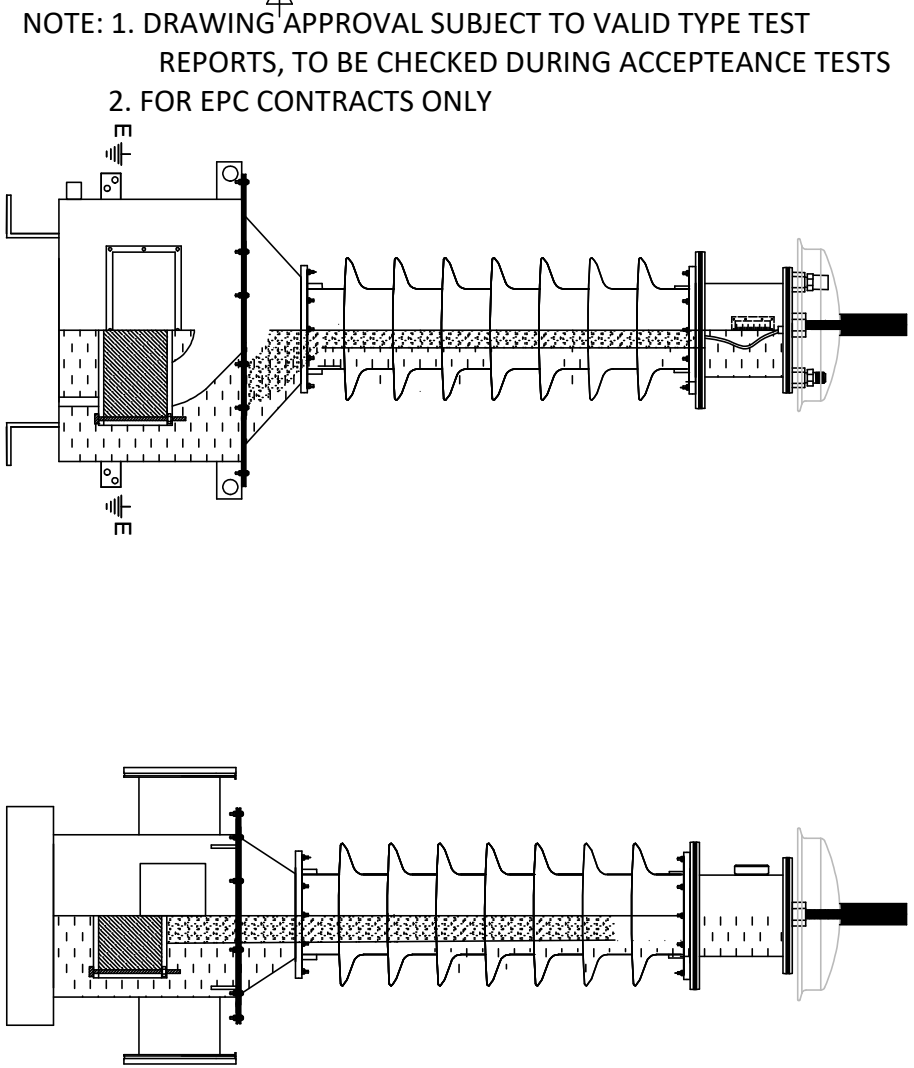
REV.#	REVISION NOTE	DATE	SCALE: NTS	NAME	SIGN	DATE

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 ALL DIMENSIONS ARE IN mm & WEIGHTS ARE IN kg UNLESS OTHERWISE SPECIFIED
 MINOR MODIFICATIONS WITHOUT NOTICE

PROJECTION:	
TITLE:	GA DRAWING OF 33KV OUTDOOR OIL COOLED DEAD TANK VOLTAGE TRANSFORMER OF RATIO (0.2/10VA, 0.2/50VA) 0330V/12LDG
DRAWN	NH
CHECK	SS
APPR.	DS
DWG. NO.:	AP/T/0330V/02B
SHEET NO.:	01
NO OF SHEETS:	04

1	2	3	4	5	6	7	8
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NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS
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FRONT VIEW

SIDE VIEW

1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/Isolators/IV/LA/Breakers in the Substation during foundation works to ensure safe live to ground clearance 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 contractor shall be instructed to supply the same in line with CT/PT/CVT/Isolator/IV/LA/Breakers requirement and compatibility.

REV.#	REVISION NOTE	DATE

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DESIGN DATA:

PRIMARY WINDING:

- a. Area of Crosssection: 0.29Sq.mm
- b. Conductor material: Electrolytic Copper
- c. Weight of conductor: 4.5Kgs approx.

SECONDARY WINDING:

- a. Area of Crosssection: 14&16SWG (5.25Sq.mm)
Winding-I: 14&16SWG (5.25Sq.mm)
- b. Conductor material: Super enameled Copper wire
- c. Weight of conductor: 1.5Kgs approx.

PROJECTION:	SCALE: NTS	DRAWN	NAME	SIGN	DATE
TITLE: CROSS SECTIONAL DRAWING OF 33KV OUTDOOR OIL COOLED DEAD TANK VOLTAGE TRANSFORMER OF RATIO (0.2/10VA,0.2/50VA) 0330V/121DG		CHECK	NH		11-01-2024
STRATON ELECTRICALS PVT. LTD., HYDERABAD		APPR.	SS		11-01-2024
		DWG. NO.:	DS		11-01-2024
		SHEET NO.:	AP/T/0330V/02B		REV.: 00
			NO OF SHEETS: 04		

Drawing approval subject to valid vendor registration

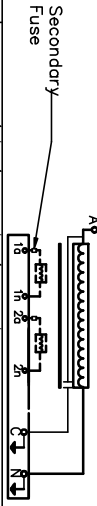
NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS
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STRATON®

INDUCTIVE VOLTAGE TRANSFORMER

MADE IN INDIA

TYPE DESIGNATION	33kV OUTDOOR OIL IMMERSSED VT	HIGHEST SYSTEM VOLTAGE (kV)	36	QTY. OF OIL (Lts)	35 (Approx).
REF. STANDARD	IS 16227 (PART 1&3).	RATED SYSTEM VOLTAGE (kV)	33	WEIGHT OF VT (Kg)	160 (Approx).
RATED FREQUENCY	50Hz	INSULATION LEVEL (kVrms/kVp)	70/170	TEMP. CAT.	-5/50°C
RATED VOLTAGE FACTOR	1.2 CONTINUOUS & 1.5 FOR 30 SEC.	INSULATION CLASS	A	MIN. CREEPAGE (mm)	1116



CAUTION:
1. ENSURE LV TERMINALS ARE NOT SHORT CIRCUITED

VT RATIO (V/V)	33000 / √3 / 110 / √3 / 110 / √3	WINDING - 1	WINDING - 2
PURPOSE		METERING	METERING
RATED VOLTAGE	PRIMARY (V) 33000 / √3	SECONDARY (V)	33000 / √3
TERMINALS	PRIMARY A - N	SECONDARY	110 / √3
RATED BURDEN (VA)	10 - 1n		A - N
ACCURACY CLASS	10		2a - 2n
YEAR OF MANUFACTURING	0.2		50
VT SERIAL NUMBER			0.2
CUSTOMER/CLIENT NAME	M/s. Transmission Corporation of Andhra Pradesh Limited.		
ORDER NO.:	STRATON ELECTRICALS PVT. LTD., HYDERABAD - 502 319.		

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Chief Engineer/Projects

APTRANSCO/VS/Vijayawada.



SCALE: NTS

DRAWN: NH
CHECK: SS
APPR.: DS

DATE: 11-01-2024

PROJECTION:



NAME PLATE DRAWING OF 33kV
OUTDOOR OIL COOLED DEAD TANK VOLTAGE
TRANSFORMER OF RATIO (0.2/10VA, 0.2/50VA)
0330V12LDG

DWG. NO.: AP/T/0330V/02B

SHEET NO.: 03
NO OF SHEETS: 04

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