

8454250/2024/EMRO/ENE51 CONTRACTS ONLY



**GUARANTEED TECHNICAL PARTICULARS OF OIL IMMERSSED CURRENT TRANSFORMER (31mm/kV)**

Customer Name	M/S. Transmission Corporation Of Andhra Pradesh Limited.	Drawing No.	APT/033OC/02B
Project Name	-	Model. No.	033OC/06GLB
Po# &Date	-	Rev.	0
Item Desc.	33kV Oil Immersed Live Tank Current Transformer (2000-1200-800/1-1-1-1A)		

S.NO	PARTICULARS	UNITS	DESCRIPTION			
1	Manufacturer's name and country of origin		M/s. Straton Electricals Pvt Ltd, Sy No. 42/A1/1, Alinagar, Gaddapotharam (GP), Jinnaram(M), Sangareddy (Dist.), Hyderabad 502319, Telangana, India			
2	Type		Single Phase, Oil immersed, Live 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 & 2)			
8	No. of secondary cores		Four			
9	Rated Primary Current	A	2000-1200-800			
10	Secondary Winding details		<b>Core I Protection</b>	<b>Core II (Diff. Prot.)</b>	<b>Core III (Metering)</b>	<b>Core IV (Metering)</b>
11	Rated Secondary Current	A	1	1	1	1
12	Accuracy Class		5P	PX	0.2S	0.2S
13	Rated Secondary Burden	VA	15	-	10	5
14	ISF/ALF		10		<5 @all ratios	<5 @all ratios
15	Knee-point Voltage (Vk)	V	-	40I(Rct+10)	-	-
16	Excitation Current (mA)@ Vk @2000A tap @1200A tap @800A tap	mA	-	<30mA <40 mA <50 mA	-	-
17	Secondary Winding Resistance (Rct) @2000A tap @1200A tap @800A tap	Ω	-	14.75 7.95 4.85	-	-
18	Short time thermal current and its duration (STC)	kA/t(s)	25		t(s)	1
19	Rated dynamic current	kAp	2.5*STC			
20	Method of ratio change and secondary connection details & connection diagram		Secondary tapping			
21	Primary terminal material and details	mm	Electrolytic Copper stud of 50mm dia Bar Primary Nickel Plated			
22	Secondary terminal material and details		M6 stud type terminal blocks			
23	Current density	Sq.mm	1.22			
24	One minute power frequency withstand voltage test on primary winding	kVrms	70			
25	Lightning impulse withstand voltage	kVp	170			
26	One minute power frequency withstand voltage test on secondary winding	kVrms	3			
27	Measurement of Partial Discharge @ 1.2*Um / √3	pC	< 5			
28	Measurement of Partial Discharge @ Um	pC	< 10			
29	i) Rated continuous thermal current ii)Temperature rise over ambient	°C	1.2 times continuous <55°C as per IS 16227:2016			
30	Type & make of porcelain housing		Cemented Flange & CJI / Ravi Kiran / Modern / Any std. make			
31	Material of tank		SS			

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

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32	Tank coating		Paint Shade 631 as per IS 5
33	Gauge of the tank and material		- Min 5 mm for top cover and bottom with MS - Min 3.15mm for remaining tank with SS - Min 3.15mm for base with MS
34	Hardware exposed to atmosphere		Hot dip galvanized / Alu. Zinc
35	Total creepage distance	mm	1116 min
36	Live part to ground clearance	mm	400 (min)
37	Weight of oil	Ltr.	30 (Approx)
38	Total weight of equipment	kg	140 (Approx)
39	Whether CT is hermitically sealed?		Yes
40	Whether all O-rings are fixed in properly machined grooves?		Yes
41	O-rings & gaskets' material		Nitrile Butyl Rubber
42	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
43	Oil Filling Arrangement		Oil filling valve on top of the tank & drain valve at the bottom
44	Mounting details		400mm X 400mm (between Hole centers)
45	Overall Dimensions		As per GA drawing

**NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS  
2. FOR EPC CONTRACTS ONLY**

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.

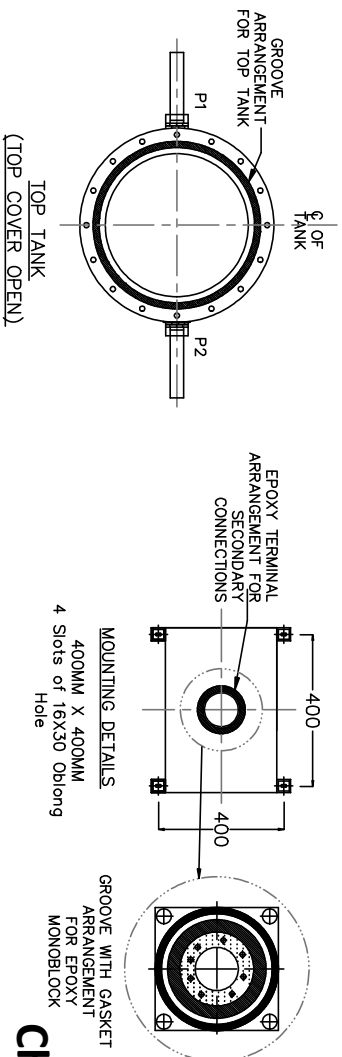
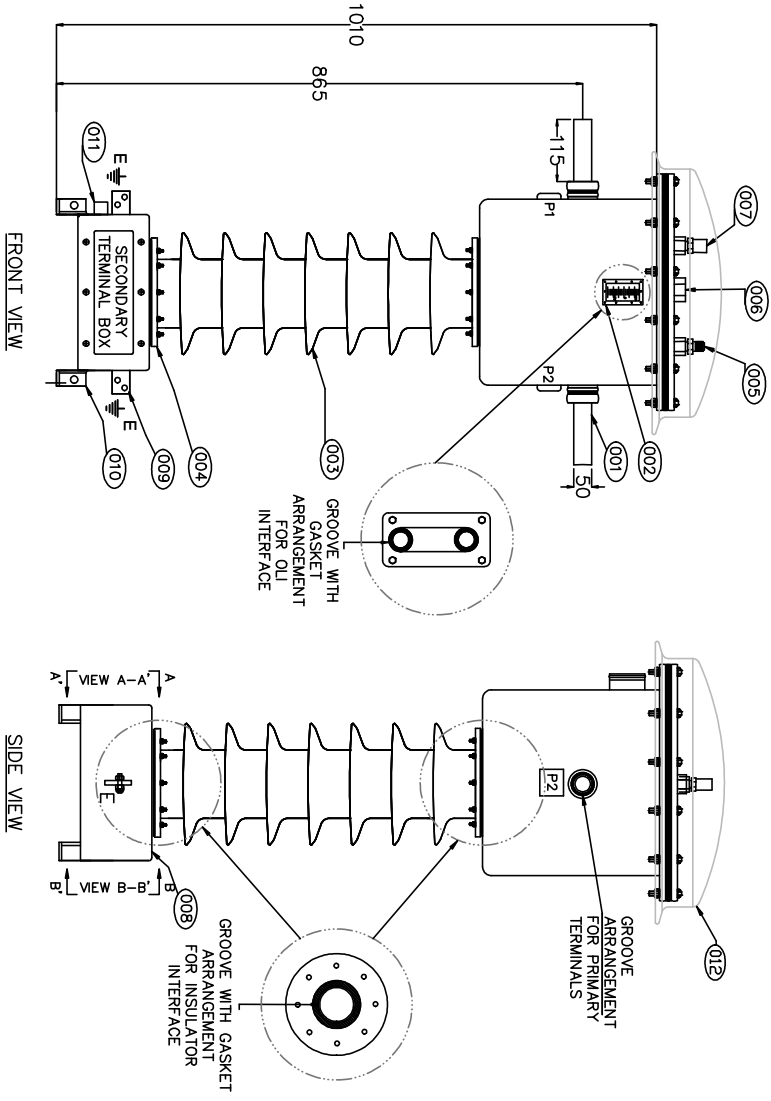
2. Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings. The EPC contractor shall be instructed to supply the same in line with CT/PT/CVT/Isolator/IVT/LA/Breakers requirement and compatibility.

Drawing approval subject to valid vendor registration

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S.NO	ITEM DESCRIPTION	MATERIAL	QTY
001	HT TERMINALS	50mm DIA NICKEL PLATED COPPER BAR	01
002	OIL LEVEL INDICATOR (OLI)	AL. DIE CASTED (PRISMATIC)	01
003	INSULATOR	PORCELAIN	01
004	BUSHING ENDS	CEMENTED FLANGE	02
005	N2 FILLING VALVE	BRASS	01
006	OIL FILLING PLUG	MILD STEEL	01
007	PRESSURE RELIEF VALVE (1/4")	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	DOME COVER	MILD STEEL	01



- NOTE:-
- CONFORMING TO IS :- 16227 (PART 1 & 2)
  - INSULATING OIL CONFORMING TO IS: 335
  - CT WILL BE HERMETICALLY SEALED.
  - DIMENSION TOLERANCES ±5%.
  - TANK FINISHING WILL BE PAINTED, WITH PAINT SHADE 631 AS PER IS 5.
  - ALL HARDWARE EXPOSED TO ATMOSPHERE WILL BE HOT DIP GALVANIZED OR AL. Zn.
  - CREEPAGE DISTANCE : 1116mm
  - TOTAL OIL QUANTITY : 30 Liters (Approx).
  - TOTAL ESTIMATED WEIGHT: 140 Kgs (Approx).
  - SIZE OF SECONDARY TERMINALS : M6 STUD TYPE TERMINALS BLOCKS.

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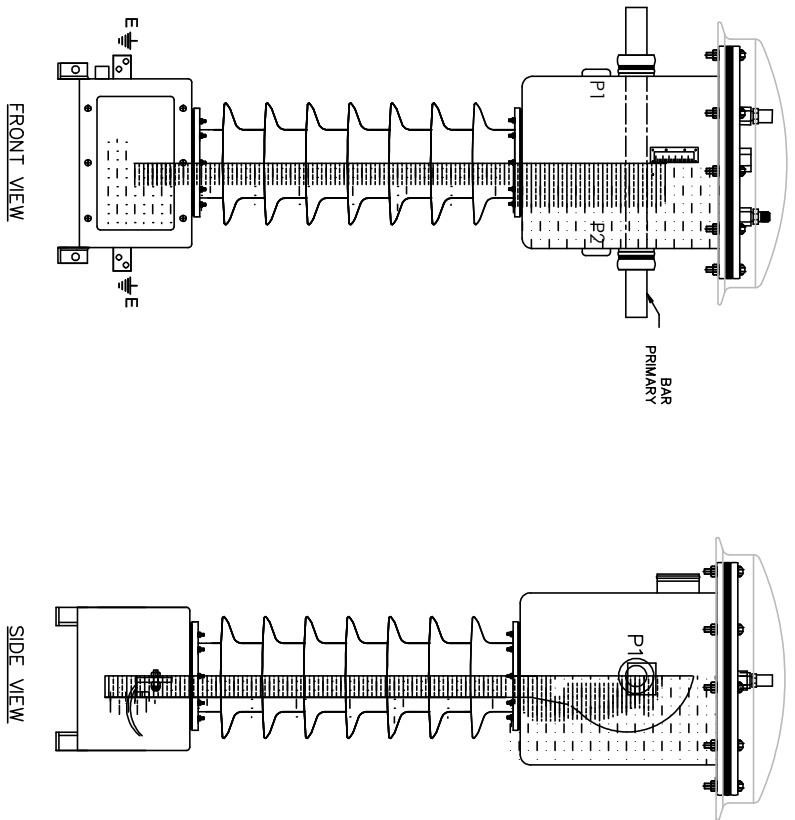
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PROJECTION:	GA DRAWING OF 33KV	DRAWN	NH	11-01-2024
TITLE:	OUTDOOR OIL COOLED LIVE TANK	CHECK	SS	11-01-2024
	CURRENT TRANSFORMER2000-1200-800/1-1-1-1A	APPR.	DS	11-01-2024
	0330C06GLB	DWG. NO.:	AP/T/0330C/02B	REV.: 00
	ELECTRICALS PVT. LTD., HYDERABAD	SHEET NO.:	01	NO OF SHEETS: 04

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**DESIGN DATA:**

**PRIMARY WINDING:**

- a. Area of Crosssection: 1962.5 Sq.mm
- b. No. of turns: Single (Bar Primary)
- c. Conductor material: Electrolytic Copper
- d. Weight of conductor: 15Kgs approx.

**SECONDARY WINDING:**

- a. Area of Crosssection:
  - Core-I: 20SWG (0.655Sq.mm)
  - Core-II: 21SWG (0.518Sq.mm)
  - Core-III: 20SWG (0.655Sq.mm)
  - Core-IV: 21SWG (0.518Sq.mm)
- b. No. of secondary turns:
  - Core-I: 2000 with taps at 1200 & 800 Turns
  - Core-II: 2000 with taps at 1200 & 800 Turns
  - Core-III: 2000 with taps at 1200 & 800 Turns
  - Core-IV: 2000 with taps at 1200 & 800 Turns
- c. Conductor material: Super enameled Copper wire

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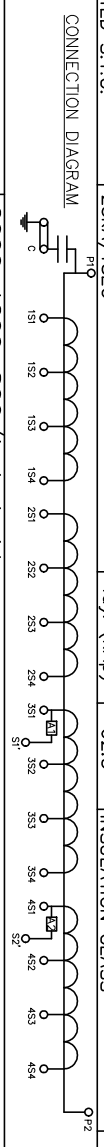
PROJECTION:	SCALE: NTS	DRAWN	NAME	SIGN	DATE
TITLE: GROSS SECTION VIEW OF 33KV OUTDOOR OIL COOLED LIVE TANK CURRENT TRANSFORMER 2000-1200-800/1-1-1-1A 033OC06G1B		CHECK	NH		11-01-2024
<b>STRATON</b> ELECTRICALS PVT. LTD., HYDERABAD		APPR.	DS		11-01-2024
		DWG. NO.:	AP/T/033OC/02B		REV.: 00
		SHEET NO.:	02	NO OF SHEETS:	04

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<b>STRATON®</b>		<b>CURRENT TRANSFORMER</b>		<b>MADE IN INDIA</b>	
TYPE DESIGNATION	33kV OUTDOOR OIL IMMERSSED CT	HIGHEST SYSTEM VOLTAGE (kV)	36	QTY. OF OIL (Lts)	30±5
REF. STANDARD	IS 16227 (PART 1&2)	RATED SYSTEM VOLTAGE (kV)	33	WEIGHT OF CT (Kg)	140±10
RATED FREQUENCY	50Hz	INSULATION LEVEL (kVrms/kVp)	70/170	TEMP. CAT.	-5/50°C
RATED S.T.C.	25kA/1SEC	Idy. (kAp)	62.5	INSULATION CLASS	A



CAUTION: SECONDARY TERMINALS SHOULD BE SHORT CIRCUITED WHEN BURDEN IS NOT CONNECTED.

CT RATIO (A/A)	2000-1200-800/1-1-1-1A			
PURPOSE	CORE-1	CORE-2	CORE-3	CORE-4
RATIO (A/A)	800/1	1200/1	2000/1	800/1
TERMINAL PRIMARY	P1-P2	P1-P2	P1-P2	P1-P2
TERMINAL SECONDARY	1S1-1S2	2S1-2S2	3S1-3S2, S1'	4S1-4S2, S2'
RATED BURDEN (VA)	15	-	10	5
ACCURACY CLASS	5P	PX	0.2S	0.2S
ISF/ALF	10	-	<5 @all ratios	<5 @all ratios
Vk (V)	-	40/(Rct+10)	-	-
RESISTANCE @75°C (Ω)	-	4.85	7.95	14.75
MAG. CURRENT (mA)	-	<50	<40	<30
CT SERIAL NUMBER	YEAR OF MANUFACTURING			
CUSTOMER/CLIENT NAME	M/s. Transmission Corporation of Andhra Pradesh Limited.			
ORDER NO.	STRATON ELECTRICALS PVT. LTD., HYDERABAD - 502 319.			

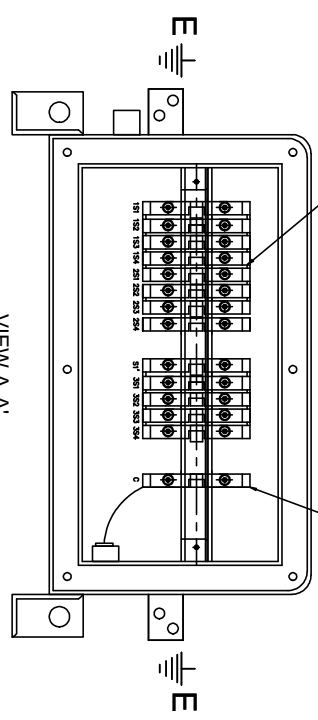
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NOTE:  
1. S1' TERMINAL IS PROVIDED FOR THE METERING CORE TO ACHIEVE ISF.  
    @800, CONNECT S1' TERMINAL WITH 3S2.  
    @1200, CONNECT S1' TERMINAL WITH 3S3.  
    @2000, CONNECT S1' TERMINAL WITH 3S4.  
2. S2' TERMINAL IS PROVIDED FOR THE METERING CORE TO ACHIEVE ISF.  
    @800, CONNECT S2' TERMINAL WITH 4S2.  
    @1200, CONNECT S2' TERMINAL WITH 4S3.  
    @2000, CONNECT S2' TERMINAL WITH 4S4.

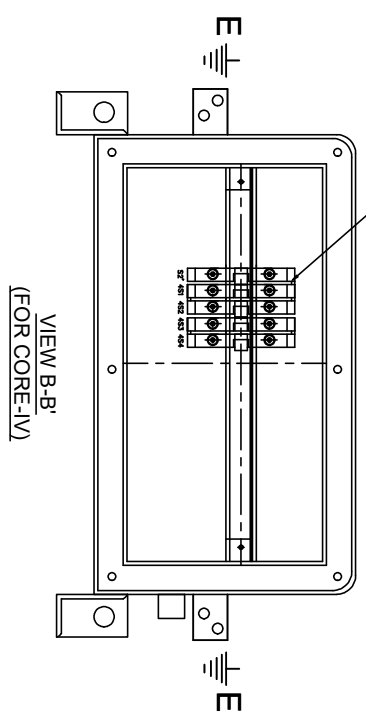
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REV.#	REVISION NOTE	DATE	PROJECTION:	SCALE: NTS	DRAWN	NAME	SIGN	DATE
1			TITLE: NAME PLATE DRAWING OF 33kV OUTDOOR OIL COOLED LIVE TANK CURRENT TRANSFORMER OF RATIO 2000-1200-800/1-1-1-1A 0330C06GLB		NH			11-01-2024
2					SS			11-01-2024
3					DS			11-01-2024
4					APPR.			
5					DWG. NO.:	APT/0330C/02B		REV.: 00
6					SHEET NO.:	03		NO OF SHEETS: 04
7								
8								

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TERMINAL BLOCKS  
 POINT  
 TAN DELTA

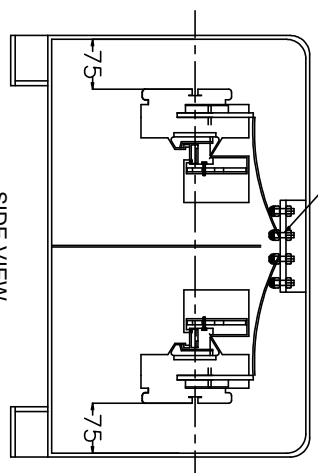


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EPOXY  
 MONO-BLOCK



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- NOTES:**
1. SECONDARY TERMINAL BOX SHALL BE PROVIDE REMOVABLE GLAND PLATE WITHOUT HOLE.
  2. SECONDARY TERMINAL BOX SHALL BE PROVIDED WITH COVER WITH EPDM GASKET.
  3. SECONDARY TERMINAL BOX FOR CORE-IV(0.25, 5VA) SHALL BE SEPARATE WITH SEALING ARRANGEMENT
  4. DEGREE OF PROTECTION FOR SECONDARY TERMINAL SHALL BE IP55
  5. 20% SPARE TERMINALS SHALL BE PROVIDED
  6. FERULES SHALL BE PROVIDED FOR ALL WIRES IN SECONDARY TERMINAL BOX.

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				NH		11-01-2024
				SS		11-01-2024
				DS		11-01-2024
						REV.: 00

PROJECTION:	TITLE:	DRAWN	CHECK	DWG. NO.:	SHEET NO.:	NO OF SHEETS:
	SECONDARY TERMINAL BOX DRAWING OF 33kV OUTDOOR OIL COOLED LIVE TANK CURRENT TRANSFORMER 2000-1200-800/1-1-1A APT/0330C006GLB			APT/0330C/02B	04	04

